

Jake O Boomgarden

THRESHING MACHINERY



GAAR-SCOTT & CO. RICHMOND, IND.

SEVENTY-FOURTH ANNUAL CATALOG
TRACTION ENGINES AND THRESHING MACHINERY

Established 1836 ♣ Incorporated 1870



**A LOOK AT THE
TIGER'S
STRIPES
FOR
1909**

GAAR-SCOTT & CO.
THE TIGER THRESHER LINE
RICHMOND, INDIANA, U.S.A.

TRADE MARK REGISTERED

THE MARKS OF SEVENTY-FOUR-YEAR QUALITY

Reprinted By T. H. Smith, 611 Darcy Ave., Joliet, Illinois



THE PROOFS OF QUALITY

TO KNOW THEM IS WISDOM;
TO HEED THEM IS SUCCESS



W

HEN any newly discovered mechanical contrivance, covered by patents of real or speculative value, is being developed, the opportunities are abundant for earning excessive profits to the manufacturer. The genius of discovery came in for a good share of the profits in the early manufacturing of traction steam power and threshing machinery. In this day, very few non-producers are on the pay roll. We refer to this merely to impress upon you that the price you pay for your engine or thresher is made up of the cost of materials that enter into its construction, the cost of skilled labor and superintendence, and a fair return on the investment put into buildings, equipment, etc. Keen competition now keeps these returns so severely moderate that a piece of machinery of a certain grade will cost in the different factories approximately the same, allowing some little advantage to the large factories that can afford to employ the most skilled and experienced men as heads of departments, the most expert buyers, and buy materials in large quantities at a little better price.

With little difference in the cost of producing threshing machinery of like grade, it follows that without a fair price you can not buy quality. "Nobody can make a silk purse out of a sow's ear." If you buy the machinery that is offered the cheapest, you get what you pay for—inferior materials, low grade workmanship, and slipshod construction. The concealment of these is a studied art in shops of this class. To detect them you would have to know materials like an expert and construction like a master-mechanic. This is what it means to know quality in threshing machinery. If you do not know it like that, the safe course is to do business with an establishment that has built up a reputation on quality.

For a longer period than the business history of any similar manufactory on the continent, the pioneer organization of Gaar, Scott & Co. has enjoyed a career of uninterrupted success and confidence, and its machinery has been standard throughout the grain-growing world. If you will study the proofs of seventy-four-year quality as we submit them in this catalog, and inspect our machinery at one of our branch houses, or visit our big factory, we know we can convince you that "one standard of quality and that the best" is still the rule in every department.

HOWARD CAMPBELL, President and Gen'l Manager.

FRANK LAND, First Vice-President.

W. H. CAMPBELL, Second Vice-President.

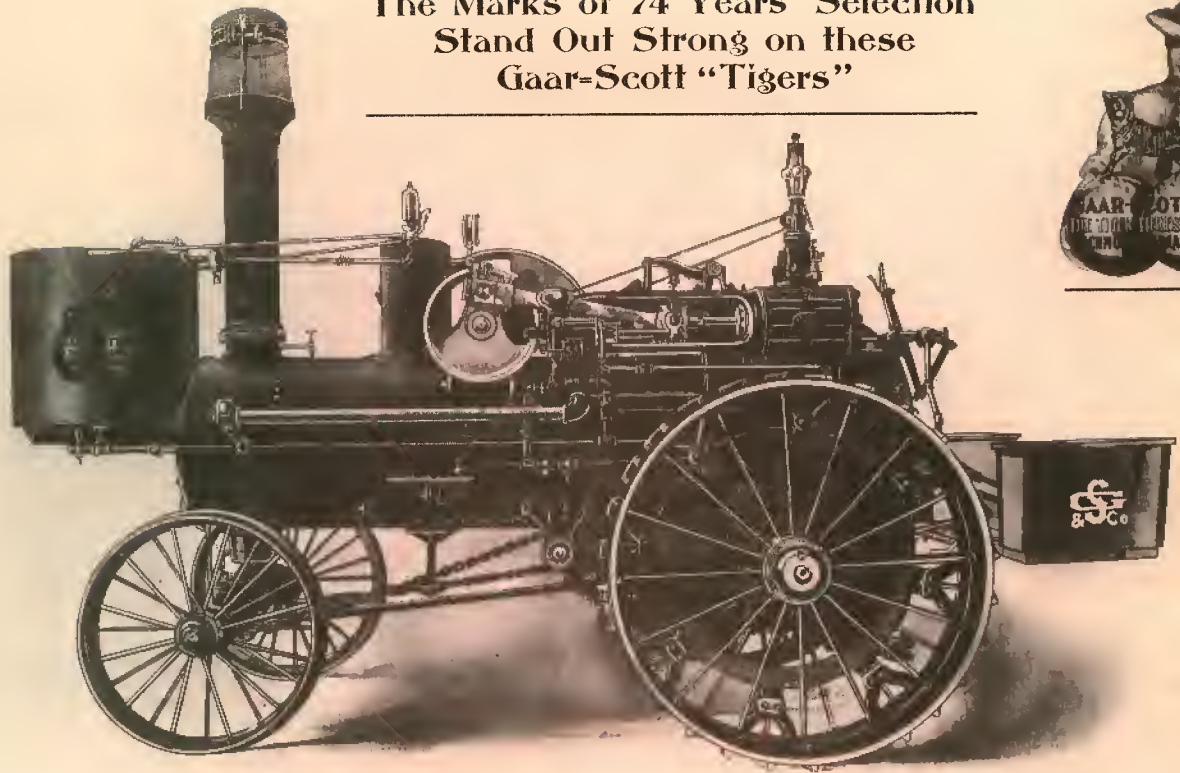
S. S. STRATTAN, JR., Secretary.

C. H. LAND, Treasurer.

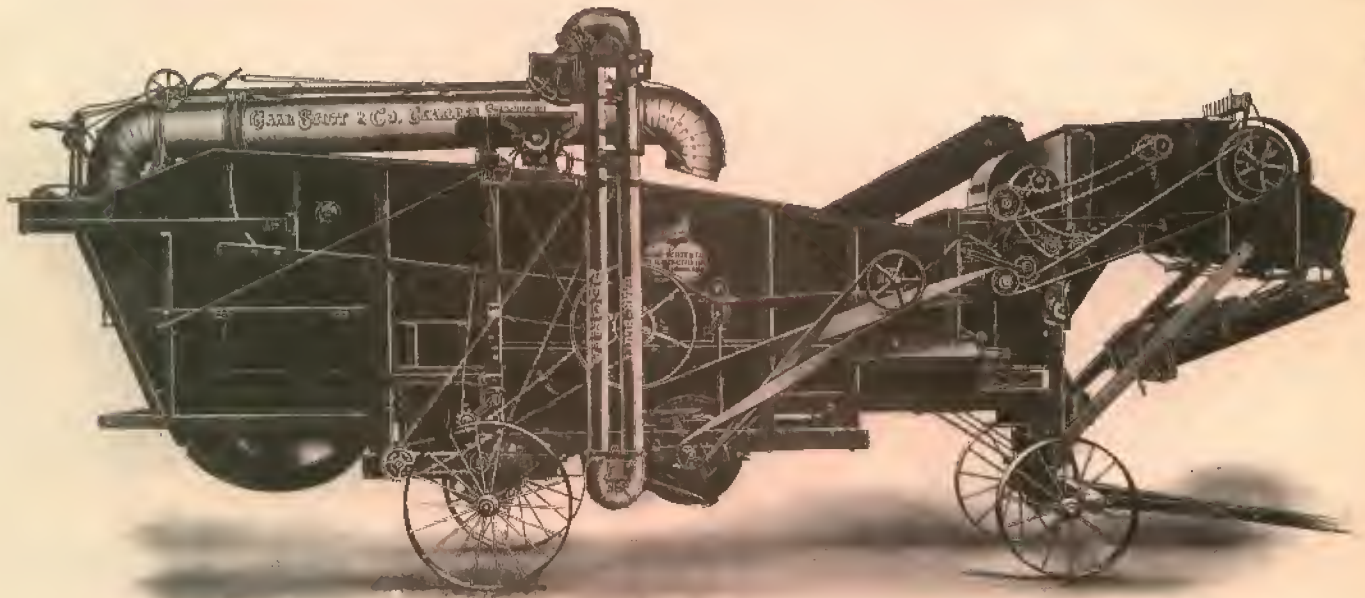
Gaar Scott & Co.

(INCORPORATED)

The Marks of 74 Years' Selection
Stand Out Strong on these
Gaar-Scott "Tigers"



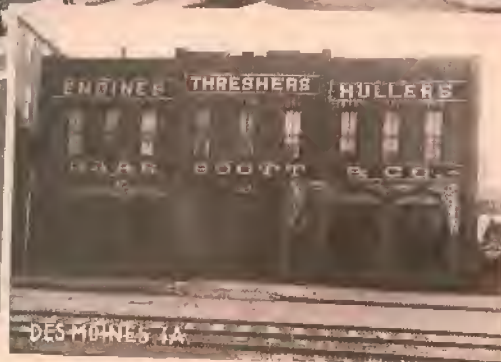
The Gaar-Scott 13, 16 and 18 h. p. Coal and Wood-Burning Traction Engine



The Gaar-Scott Thresher, with Gearless Stacker, Self-Feeder and No. 1 Weigher



GAAR-SCOTT



BRANCHES



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may be ordered from
any of these Branches



We aim to carry at all
times a full line suitable
to the territory



GAAR-SCOTT

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Other Gaar-Scott
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shown are those at
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Denver, Colorado
Greenville, Ohio
Kansas City, Mo.
Lansing, Michigan
Logansport, Ind.



Other Gaar-Scott
Warehouse
Buildings not
shown are those at
Minneapolis, Minn.
Peoria, Illinois
St. Louis, Missouri
Calgary, Alberta
Winnipeg, Man.



QUALITY IN A GAAR-SCOTT ENGINE

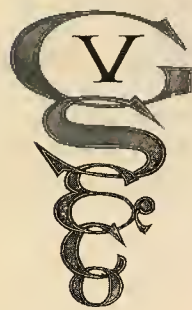
BEGINS WITH A SAFE, SOUND, HONESTLY-BUILT BOILER
OF LARGE CAPACITY



TO build a high-grade, durable and economical engine, the manufacturer must start with a boiler to which these terms apply in their strictest sense. You know this if you know anything at all about a steam engine. It was our first lesson in boiler construction, the first instructions that were given to our buyer of materials and to our boiler shop foremen. Every man in our large boiler shop has this dinged into his ears until he knows that nothing but the highest grade workmanship, from the punching of the rivet holes to the beading over of the flues, will pass our inspection.

We have learned another important lesson in connection with boiler manufacturing, and that is, to get this kind of a high-class boiler, it is absolutely necessary to build them in our own shops, buy every bolt, plate, stud and flue at first hand from manufacturers of unquestioned reliability, and, as a further precaution, put them through our own testing department.

Boiler making is one of our big departments, and with every possible safeguard in this branch of our manufacturing, a leaky flue, an insecure stay bolt, or a weak plate, when the boiler comes out of our testing house, is beyond possibility. We know, too, that no boiler made will furnish a better support for a traction engine, or stand up longer under the strain to which boilers in engines of this class are subjected by indifferent firing and handling, the engine often loaded way beyond its rated capacity and working under tremendous traction stress while hampered by the worst conditions.



EVERY few exclusive boiler shops are equipped as completely as ours. We have every hydraulic and pneumatic piece of machinery needed for the economical and correct manufacturing of steam boilers, from the largest to the smallest. Our boilermakers are the most skilled in their line. Many of them learned their trade with us, and our thorough methods have been not

only the A, B, C, but the full alphabet of their instructions.

Steam Boiler Plate

ALL plates used in our boilers are the standard thickness for boilers that require much greater steam pressure to develop their full working power, such as used in some styles of compound engines and

others that on account of imperfect construction do not have advantage in the use of steam possessed by Gaar-Scott boilers. The buyer's first inquiry should be of the quality of the plate. We use nothing but the best open-hearth marine flange steel tested to 60,000 lbs. to the square inch, tensile strength. The further physical test of bending and flanging is also applied with the standard chemical tests.

Boiler Tests

BUILDING our own boilers puts us in position to do all the testing so that we can place an absolute guarantee on these tests. In addition to tests of material, such as boiler plate, flues, etc., and the usual tests given the boiler before it is mounted, it receives a final test in our engine test house which accommodates ten engines at a time. Here the engines are

SEVENTY-FOUR-YEAR QUALITY

run at high speed and under a maximum steam pressure test. The boilers, pipes, flues and fittings are carefully gone over to see that they are flawless and free from leak. The friction brake and scales test is next applied. This shows the power that the engine will sustain under normal conditions, which in the case of the Gaar Scott Engine is approximately three times its nominal rating. When we say *sustain*, we do not mean power developed momentarily under extremely high boiler pressure and at high speed, but all test conditions exactly the same as those under which the engine will be expected to operate in its everyday work.

Flues and Flue Tests

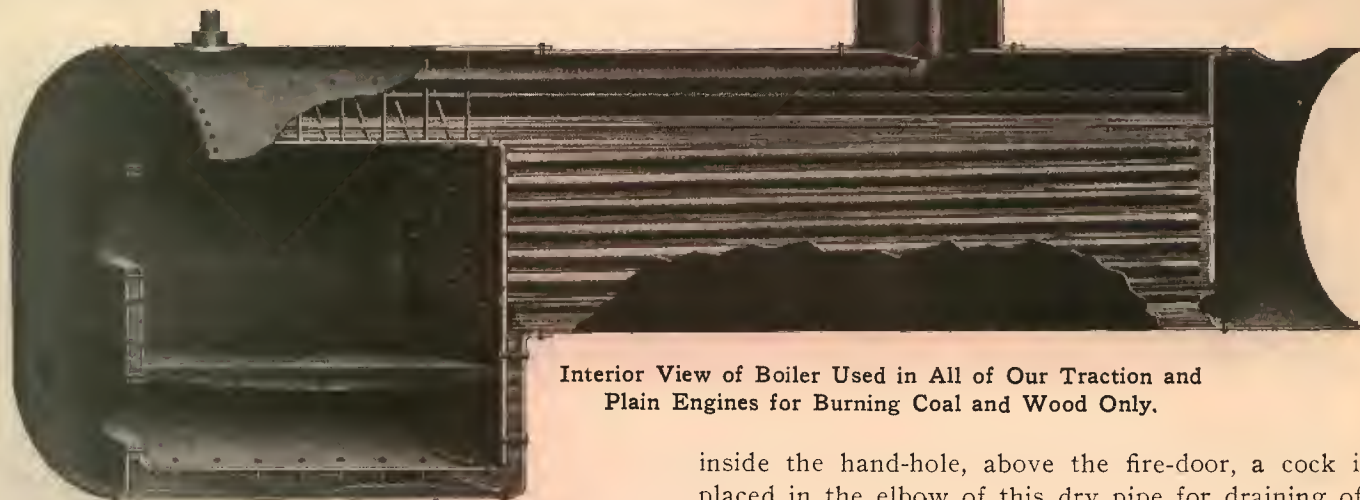
REFERENCE to engine specifications on dimension card will show the large flue heating surface of our boilers. We use only cold-drawn seamless steel tubes, tested and true to gauge. The flues are sur-

easily cleaned than rough surface flues. The arrangement of the flues in vertical tiers gives perfect circulation of the water and affords no obstruction to detached scale and sediment falling to the bottom of the boiler where it may be removed easily.

Dome and Steam Dry Pipe

THE large steam dome with arched top furnishes an abundance of dry, live steam, which is taken from near the top of the dome and goes to the steam chest through the dry pipe inside of the boiler shell without any deterioration in dryness or pressure. Just

Gaar-Scott Boilers have all longitudinal seams double riveted, as these seams are subjected to twice the stress of girth seams.



Interior View of Boiler Used in All of Our Traction and Plain Engines for Burning Coal and Wood Only.

rounded by a copper thimble where they pass through the firebox flue sheet which is carefully reamed out. When the end of the flue is expanded, this copper thimble or ferrule fills any possible inequalities in the steel and makes a perfectly tight union, especially when the boiler is fired, as copper expands readily under heat. The ends of the flues are then beaded over. The smooth steel surface of the flues retards the accumulation of scale and makes them much more

inside the hand-hole, above the fire-door, a cock is placed in the elbow of this dry pipe for draining off any condensation after the engine is shut down.

Our Crown Sheets are Arched

THE crown sheet, being directly over the fire, is generally the first plate in a boiler to show weakness and needs every possible physical safeguard against stress of steam pressure. The best of these is the arch. Pressure within a boiler has a tendency to force all flat plates into a spherical or semi-spherical form. This subjects the plate to both a bend-

THE GAAR-SCOTT "TIGER LINE"



Our steel flues are true to gauge and fit without a leak.

←COPPER FERRULE

2 IN. COLD DRAWN SEAMLESS STEEL FLUE

We use ½-inch thick flue sheet in the firebox of all 10 H. P. and larger Engines.

ing and a tension strain. No boilermaker can stay a flat crown sheet so that it will withstand as high pressure as an arched one. The flat crown sheet presents a flat surface or shelf for the lodgment and accumulation of sediment and scale, while the convex surface of the arched crown sheet has a tendency to clean itself. When scale and sediment become baked on this sheet the cooling contact of the water is prevented and the plate quickly burns out. Even a thin

coating insulates the plate from the water and prevents the heat from passing through freely.

Ample water space above the crown sheet and flues in the Gaar-Scott boiler prevents any likelihood of damage from low water when reasonable care is used. The filling of the fusible plug will melt out before the crown sheet is bare, and discharge the steam and water into the fire.

Stay Bolts and Through Stay Rods

WE USE stay bolts of best refined iron to brace the firebox sheets. These stay bolts are threaded from end to end, screwed in place under pressure of compressed air, and both ends securely riveted over. Through stay rods (the usual number being nine, depending on size of boiler) run from end to end of the boiler, making it very rigid to resist the shifting strains to which the boiler of a traction engine is subjected.

Coal and Wood-Burning Firebox

THE foregoing matter pertains to both our Universal firebox boilers for burning straw, coal and wood and to our standard coal and wood-burning boilers. The illustration on preceding page shows this latter boiler. The firebox has generous dimensions and the round bottom gives a large and easily cleaned ash-pit. The water leg entirely surrounding the firebox gives great heat absorption around the fire. Fire doors are double thickness with an air space between the plates.



Only an 18, but a "Tiger." It hauls six wagons, average weight four tons each, 4 miles, unloads and returns every six hours.

SEVENTY-FOUR-YEAR QUALITY

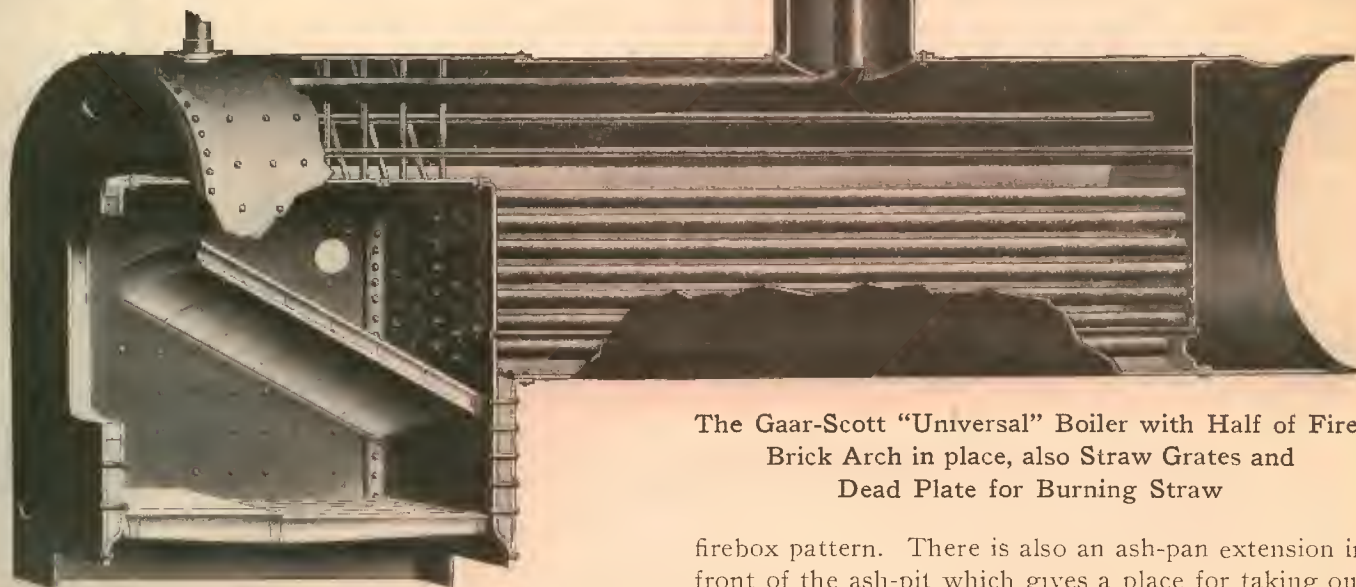
Gaar-Scott Universal Boiler

T

HE design and general construction of this boiler are very similar to our coal and wood-burning boiler described on the preceding pages and embrace its points of excellence. Its name "Universal" is derived from its being conveniently adaptable to the use of either straw, coal or wood for fuel. The firebox being designed particularly for burning straw, consumes this light fuel to perfection, and generates from it a fierce and constant heat when fired with ordinary skill. No quicker or stronger steamer has ever been designed in a traction engine boiler, and we are satisfied from our long experience as boilermakers that it can not be improved upon.

of straw-burning attachments when we are informed that coal is to be burned. You then have a coal-burner that is popular where coal is burned exclusively, as well as where it is desirable to sometimes burn lighter fuel. The cross-section of boiler on this page shows straw-burning grates and dead plate, also a half of fire-brick arch in position.

Please notice the large firebox area and the large ash-pit so desirable in burning straw. The bottom of the firebox (not shown in cross-section) is a heavy flanged plate bolted securely in position, making a durable, tight bottom and not merely a thin sheet iron bottom as in some boilers of open bottom



The Gaar-Scott "Universal" Boiler with Half of Fire-Brick Arch in place, also Straw Grates and Dead Plate for Burning Straw

A Heavy Boiler-Plate Removable Bottom Bolts onto this.

The Universal Boiler as a Coal Burner

TO burn the heavier fuels (coal and wood) all that is necessary is to remove the fire-brick arch, the straw grates and the dead plate below the fire door, substituting the coal grates which are furnished in place

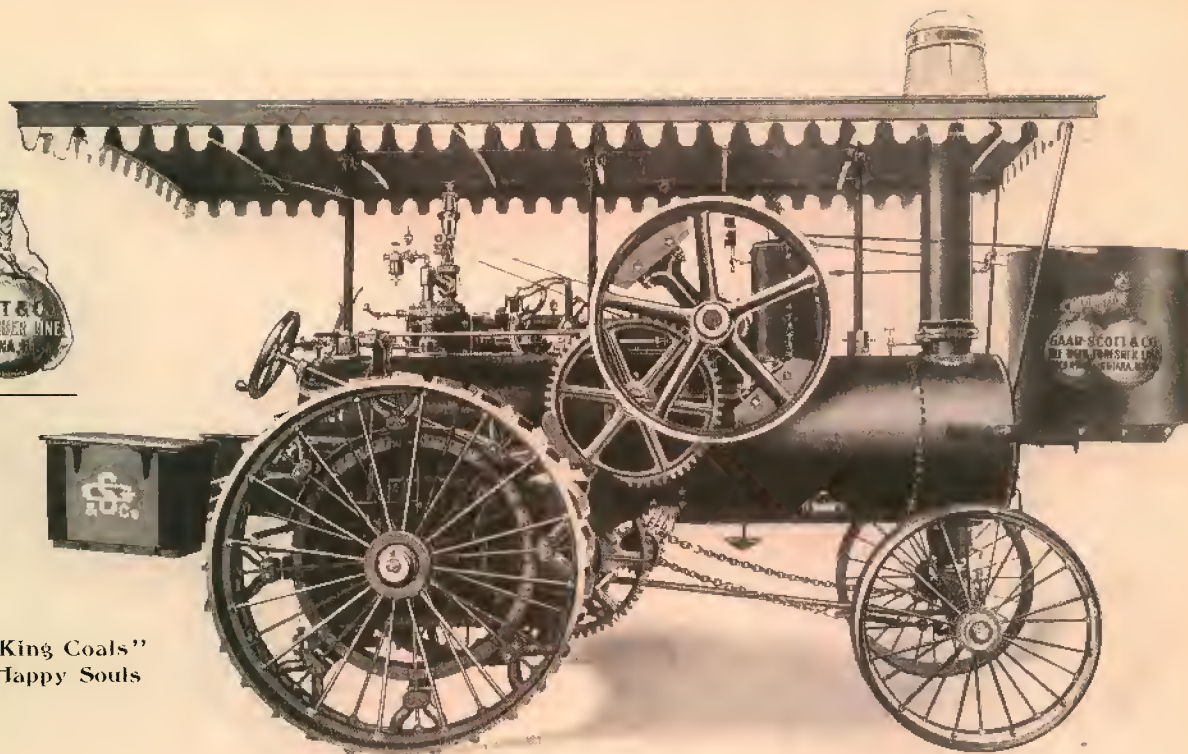
firebox pattern. There is also an ash-pan extension in front of the ash-pit which gives a place for taking out and cooling the ashes to avoid scattering fire.

The Draft Doors

YOU will notice that we provide two draft doors, one at each end of the ash-pit, which are regulated from the foot-board. Under general conditions the draft is best taken from the draft door at the flue



Gaar-Scott "King Coals"
Make Many Happy Souls



Gear Side of Gaar-Scott 13, 16 and 18 H. P. Coal and Wood-Burning Traction Engine.
Cab is extra, and furnished either regular or long as above.

end of the firebox. The fire then burns briskly under the lower end of the arch and the flames are drawn back towards the fire door where the straw, as it is fed in, immediately ignites. Taking the draft in this way, does not interfere with the draft when straw is being fed through the fire door.

The Fire-Brick Arch

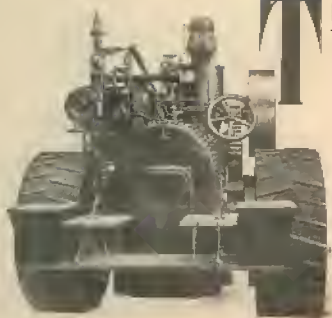
A DEFLECTOR in the firebox is necessary when straw is burned, partly to prevent the light fuel, chaff and cinders, before they are consumed, from being drawn by the strong draft against the ends of the flues, and also to create above the deflector a sort of combustion chamber. Experience has shown that for this purpose there is no substitute for the fire-brick arch, especially in point of indestructibility. Iron baffle plates soon warp and burn out. Even with an inside water leg, the circulation is sure to be bad and scale and sediment deposited with the resulting speedy deterioration of the metal, being as it is, in the fiercest heat of the furnace. Aside from this the water leg puts a cooling surface under the combustion chamber which retards instead of assists in the com-

bustion of the gases, and is, therefore, wasteful of fuel.

Our arch is composed of two tiers of fire-brick which fit into each other in the center of the arch by a tongue-and-groove joint. At the sides of the fire-box they rest on flanged irons that hang on studs screwed into the firebox. These irons are protected by the fire-brick and can not burn out. This arrangement permits of the removal of the fire-brick for burning coal and prevents any strain on the sides of the firebox from expansion and contraction. The arch is very thick and when intensely heated becomes incandescent and aids greatly in the combustion of the gases.

Straw Stuffer and Ash Pan

THE fire door is double. A funnel door for burning straw fits into the lower opening and the upper door may be opened at any time for cleaning the flues. This funnel has a damper hung on an incline, so that when straw is pushed into the firebox, the damper will drop back and keep the opening closed. There is also an opening in the side of the firebox for cleaning the flue sheet and flues.



The Universal Regular-Gear Engine

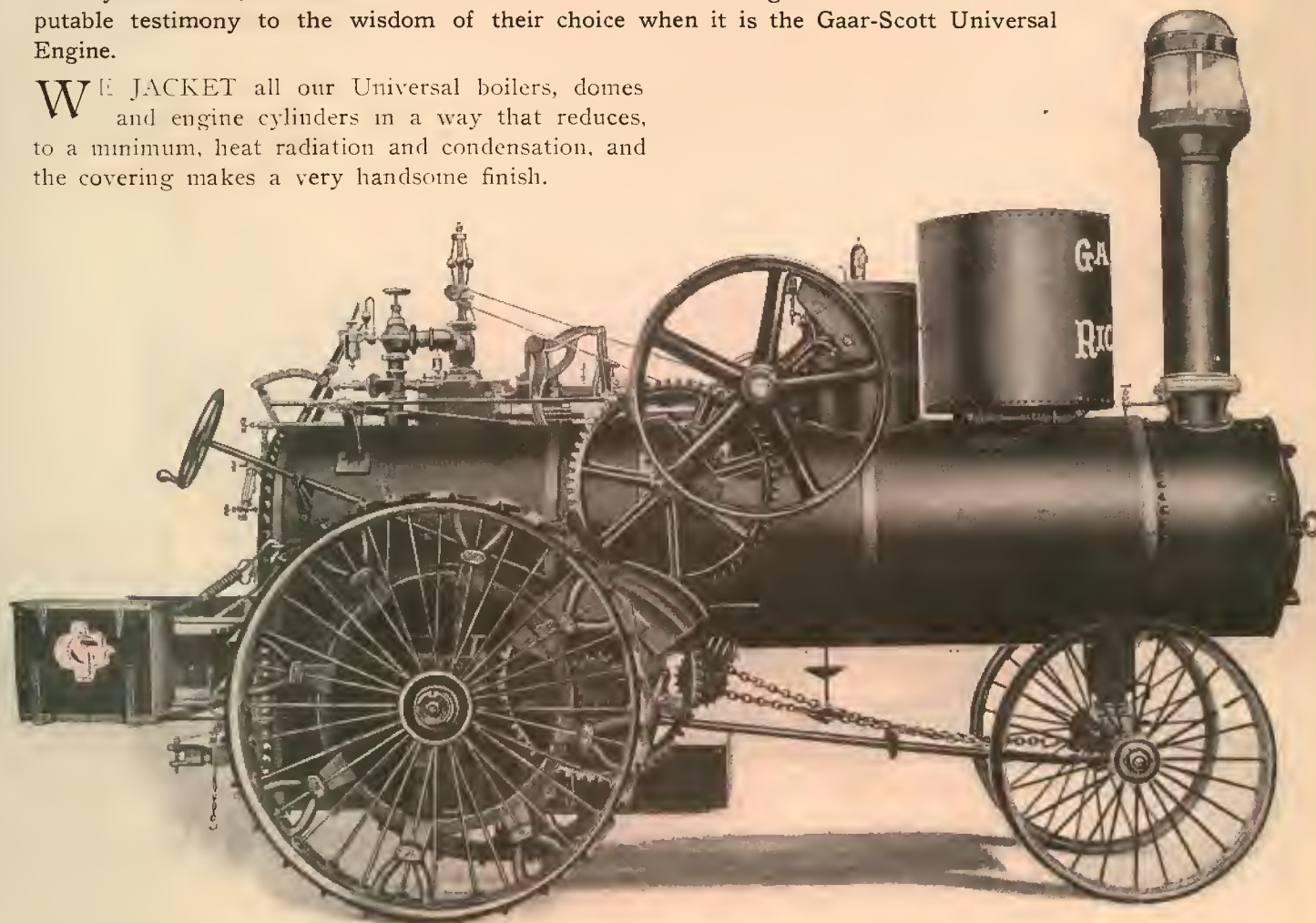
SIZES: 16 AND 18 H.P. SINGLE CYLINDER

It has Universal Boiler, Regular Traction Gears,
and Cast Drive Wheels



This is the ideal threshing engine of the Northwest for outfits of moderate size, because of its symmetrical appearance, substantial and compact construction, convenient and economical operation and the strong, steady power it develops from straw as fuel. There is no quicker steamer made, not only with light fuel, but with coal and wood as well. Some engineers who burn these heavier fuels prefer this style of boiler, and the hundreds of our Universal boiler engines so used bear indisputable testimony to the wisdom of their choice when it is the Gaar-Scott Universal Engine.

WE JACKET all our Universal boilers, domes and engine cylinders in a way that reduces, to a minimum, heat radiation and condensation, and the covering makes a very handsome finish.



Gear Side of the Gaar-Scott Regular-Gear Universal Traction Engine



Gaar-Scott Traction Engines

THEIR PARTS

AND THE WAY THEY ARE ASSEMBLED

The following illustrations and descriptions of parts apply to the design and construction of Gaar-Scott Traction Engines generally, except where reference is made to special Types of Engines



THE building of a large business institution requires the exercise of large faith, but the expectations of faith are not always realized, and the road to success is strewn with wrecks due to faulty judgment, or, more bluntly expressed—guessing wrong. Sometimes with the inexperienced manufacturer, this kind of guessing crops out in the things he manufactures. With the master builder, thoroughly grounded in the principles that underlie his trade and the natural laws that govern the operation of the machinery he produces, there is no guessing. His dependence is upon scientific knowledge. The engine designer who knows the physical properties of heat and steam and their dynamic force, does not guess; he figures out his mechanical problems with mathematical accuracy and certainty.

But knowledge of this kind is rare. It takes years to acquire it so as to make it useful in practice. The value of this ripe and mature judgment is not always correctly estimated by the man who is looking for the best exchange he can make of his dollars for an engine. This is especially true of the man who is buying his first engine. He lacks appreciation of the sense of security that the ownership of a thoroughly dependable engine gives to the experienced engineer. If any one thing more than another makes us proud of our business history, it is the fact that the claims we make for our engines never fall on deaf ears when we are talking to men who KNOW traction engines, and that upon the continued patronage of such as these our business has been built.

The Engine Frame

IN GAAR-SCOTT Engines of the Corliss Pattern—which includes all 13 h. p. and larger engines—the engine frame is a solid single casting, that is, the cylinder, steam chest, guides, and the lower half of the pillow block or main crank shaft bearing are all cast in one piece. Perfect alignment in cylinder and guides is secured by boring both out at one setting and with the same boring bar. This makes an engine frame that is as rigid and strong as can be built with no parts or joints to be thrown out of adjustment.

The guides afford a large bearing surface for the cross-head, and long usage will not give them enough wear to throw them out of line.

The engine frame brackets are tooled out to conform perfectly to the shell of the boiler and do not place any strain on the boiler. In many engines no pains is taken to have the brackets fit the boiler, but after they are attached, soft melted metal is poured under them to conceal the cheap, imperfect workmanship. Brackets put on in this way are sure to work loose in a short time and throw the engine out of line.

Our smallest engines, 8 and 10 h. p., have the locomotive cylinder guides or parallel steel bars which give sufficient bearing for engines of this size.

SEVENTY-FOUR-YEAR QUALITY

The Crank Disc and Shaft

OUR single and compound cylinder engines are the side-crank pattern. The crank disc is large in diameter and correctly weighted to offset the reciprocating motion of the engine and the weight of the crank shaft. The crank shaft is set in the disc which is machined a little smaller than the shaft, by a powerful hydraulic press under twelve tons of pressure, and the crank pin is set in the disc in the same manner. The disc is also keyed onto the shaft so that it will not get loose and the alignment of the shaft and pin is true and unvarying.

The crank shaft is made of heavy open hearth machinery steel turned its entire length and runs in large

Our Forged Steel Connecting Rod

NO MALLEABLE or cast connecting rods are used in Gaar-Scott Engines. They are all forged from a solid piece of steel. The wrist end is mortised to receive a heavy anti-friction brass box scraped to a perfect fit. The larger half of this box has a tapered groove into which a steel adjustable wedge is carefully fitted. Two bolts screw into this wedge from above and below which are used to tighten or loosen the box. To make this plain, we show a separate view of the box, adjustable wedge and wrench used to draw the bolts. It is plain that tightening the top screw will draw the wedge farther into the tapered groove and tighten the box, though before this is done



The Forged Steel Connecting Rod, Cross-Head, and Adjustable Brass Box.

self-oiling boxes. It can not get out of true with the cylinder, since, as we have observed, its main box is a part of the engine frame casting.

The Band Wheel

ON THE other end of the main or crank shaft is a large-diameter, well-balanced band wheel with a sufficiently heavy rim to steady the motion of the engine and give proper momentum throughout its revolution. It sets clear of the drive wheel and handy for belting. Its position on the right (steering) side, facilitates lining up the engine with any machine at the other end of the belt.

the lower bolt must be loosened. Drawing the wedge down loosens the box and when correct adjustment is secured the two bolts should be drawn tightly.

The crank end of the connecting rod has a strong steel stirrup bolted securely to it. The large brass box for the crank pin is adjusted by means of a tapered key and set screw in our smaller engines. In our larger engines and those with compound and double cylinders, the adjustable wedge is used in both boxes.

The Cross-Head

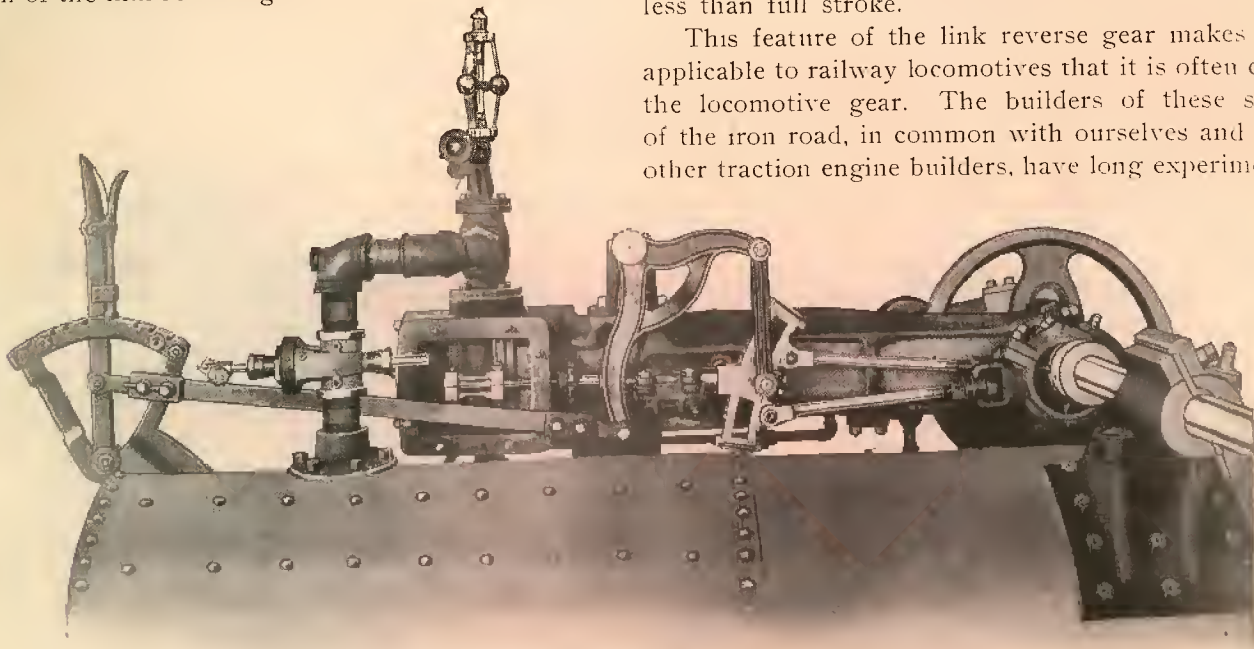
Easily adjusted wide shoes turned to the exact radius of the guides, are the special features of this

THE GAAR-SCOTT "TIGER LINE"

cross-head. Nice adjustment and perfect lubrication with the large contact surface in the guides, leave very little chance for wear or friction, give the cross-head smooth and easy travel, and avoid any pounding noise in the cross-head.

The Link Reverse Gear

TWO strong eccentrics are secured to the main shaft by set screws and are connected to the reverse link by eccentric rods, as shown in the illustration of the link reverse gear.



The Gaar-Scott Link Reverse Gear Assembled. Steam Chest Lid Removed.

This link is center hung with supports on each side which keep the link in perpendicular position, prevent wear and especially wear to one side. Our link gear reverses easily at any pressure of steam without danger to the valve gear or the piston. In addition to its value in reversing the engine motion, it operates as a perfect air-brake in stopping and holding the engine at any point at pleasure, going up or

down hill, and saves the necessity of a lock or brake on the engine, and it does more, it controls the point of cut-off of steam in the cylinder so that through the reverse lever, the operator can run the engine at full travel of valve or by "hooking up," shorten the stroke when the load is light, admitting less steam into the cylinder with a considerable saving in fuel and water. Some of the substitutes for the genuine reverse link valve gear can only be used in connection with an engine at full stroke and do not cut off at less than full stroke.

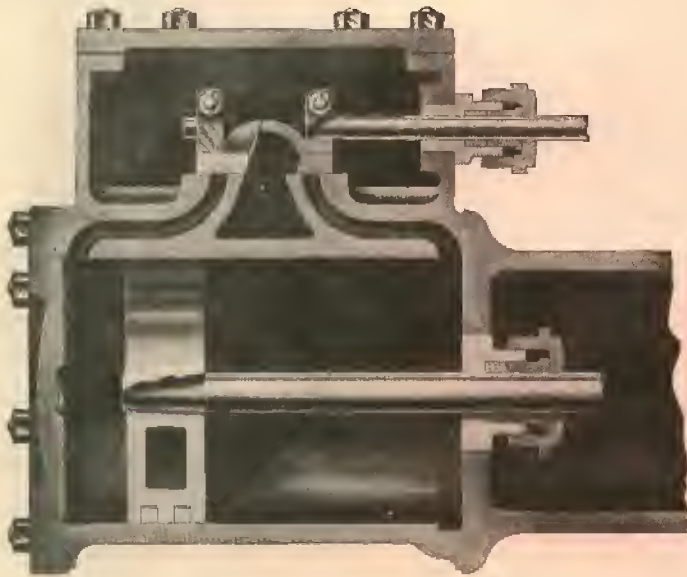
This feature of the link reverse gear makes it so applicable to railway locomotives that it is often called the locomotive gear. The builders of these steeds of the iron road, in common with ourselves and some other traction engine builders, have long experimented

with other styles of reverse gears and are still looking for one that has as many good points as the link reverse. It is the only reverse, as we have found, that will operate perfectly after some wear and service, without the necessity of nice re-adjustment which generally means rebuilding.

The link and one eccentric can easily be taken off when the engine is run one way only, as in sawing

SEVENTY-FOUR-YEAR QUALITY

or other stationary work, and our single cam rod attached. This makes a very simple and economical arrangement and saves the link.



Cross Section of Single Cylinder and Valve.

The Cylinder and Steam Chest

A SPECIAL grade of hard, close-grained iron is used in our engine frame casting of which the cylinder and steam chest are a part. This gives a smooth and easily lubricated surface inside of the cylinder. The steel piston rod is turned to a standard taper with a shoulder, forced into the piston head and further secured, in our single cylinder engines, by being riveted over.

The piston head is a single thick casting, cored out to combine lightness of weight with strength, as a heavy piston causes undue friction in the cylinder.

The two piston packing rings are carefully bored and turned before being cut and are machined to correct size. The special metal of which they are made gives them the proper elasticity to render them self-adjusting and very durable. The extreme care with which they are fitted insures their traveling with the least possible friction and fitting absolutely steam tight, so that there is no leakage of steam on the wrong side of the piston head with consequent loss of power.

The cross section of the Gaar-Scott single cylinder and valve, shows the wide ports and the free exhaust which has a direct pipe connection to the stack; also the uncommonly short steam ports made possible by casting the cylinder and steam chest together. This overcomes initial condensation in the steam ports and cylinder and at the same time admits of small clearance in the cylinder.

The steam chest cover is attached by using studs instead of screws. The advantage of this is that the studs remain in place and removing and replacing the cover is quickly done.

The "D" Slide Valve

FOR a light traveling, easily adjusted, steam valve with a minimum chance for disarrangement, the "D" slide valve has never been equalled. These features make it especially applicable to a traction engine. The same qualities also give it first place with railway locomotive builders. After our valves and valve seats have been carefully machined, their surfaces are made absolutely true, smooth and steam tight by being hand scraped.

Our method of securing the valve stem avoids danger of its slipping, and the stuffing box or packing gland is easily packed steam tight with the least friction on the valve stem.

Governor and Oil Pump

THE cylinder is fitted with one of the most approved and popular oil pumps which operates perfectly in any kind of weather; and a thoroughly reliable, spring throttle governor, sensitive to very slight variations in speed, controls the steam supply to the steam chest. This governor has the Sawyer's lever attachment.

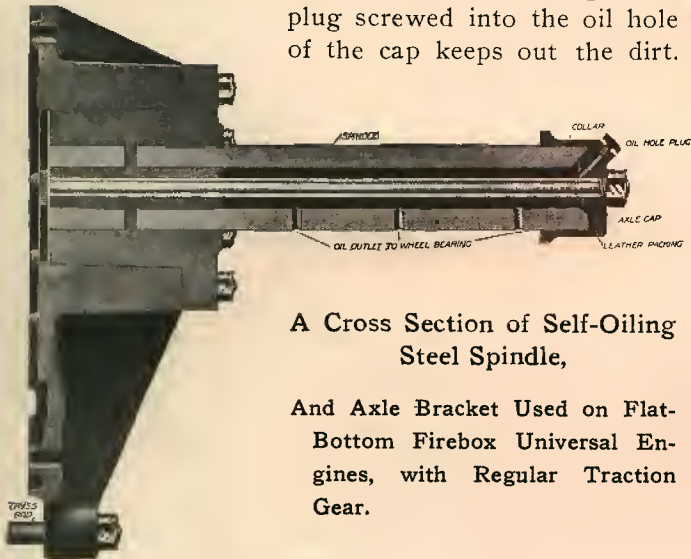
The Spindles for Regular-Gear Traction Engines

THESE spindles are made from a solid piece of best cold-rolled steel shafting, and are hollowed out to hold oil which is fed in at the opening in the cap, shown in the cross-section, and by seeping through the oil holes at the under side of the spindle, keeps the spindle thoroughly and evenly lubricated.

Oiling the spindle is thus easily done without re-

THE GAAR-SCOTT "TIGER LINE"

moving the traction wheels, an easy running wheel is assured and light wear on the spindle and hub. A bolt $1\frac{1}{8}$ inches in diameter runs through the entire length of the spindle, and a nut at the outer end holds the axle cap to its place. The axle cap is fitted with a leather washer that prevents the oil escaping and a plug screwed into the oil hole of the cap keeps out the dirt.



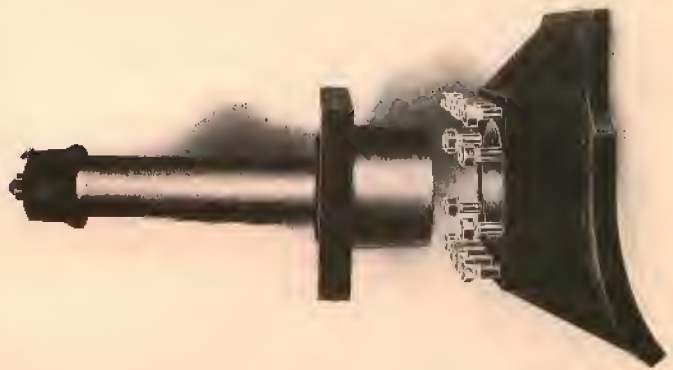
A Cross Section of Self-Oiling Steel Spindle,

And Axle Bracket Used on Flat-Bottom Firebox Universal Engines, with Regular Traction Gear.

The attachment of the spindle to the bracket will be readily understood from the illustration. A number of stud bolts shown screwed into the bracket, pass through the heavy flange on the spindle when it is in position. The large tapered portion of the spindle, to the inside of this flange, sets snugly into an accurately bored socket in the bracket. This makes it easy to remove the spindle without disturbing the axle bracket should it ever become necessary to insert a new spindle, or the spindle may be turned over to give a new contact surface to the drive wheel, prevent uneven wear and wobbly drive wheels.

The Axle Bracket

THE construction and attachment of our axle bracket is such that there is no outward pull on the sides of the firebox and no danger of the spindles getting out of square with the boiler from this cause. The integrity of the gearing is consequently maintained, and strain, undue wear and breakage are avoided. The brackets on our coal-burning boiler



**The Self-Oiling Steel Spindle,
With Axle Bracket Used on Round-Bottom Firebox of Our
Coal-Burning Traction Engines.**

curve under the sides of the boiler and support the weight of the rear end of the engine without strain. In our Universal boiler engines this is accomplished by two heavy truss rods, $1\frac{1}{8}$ inches in diameter on most of our engines, which pass under the firebox and

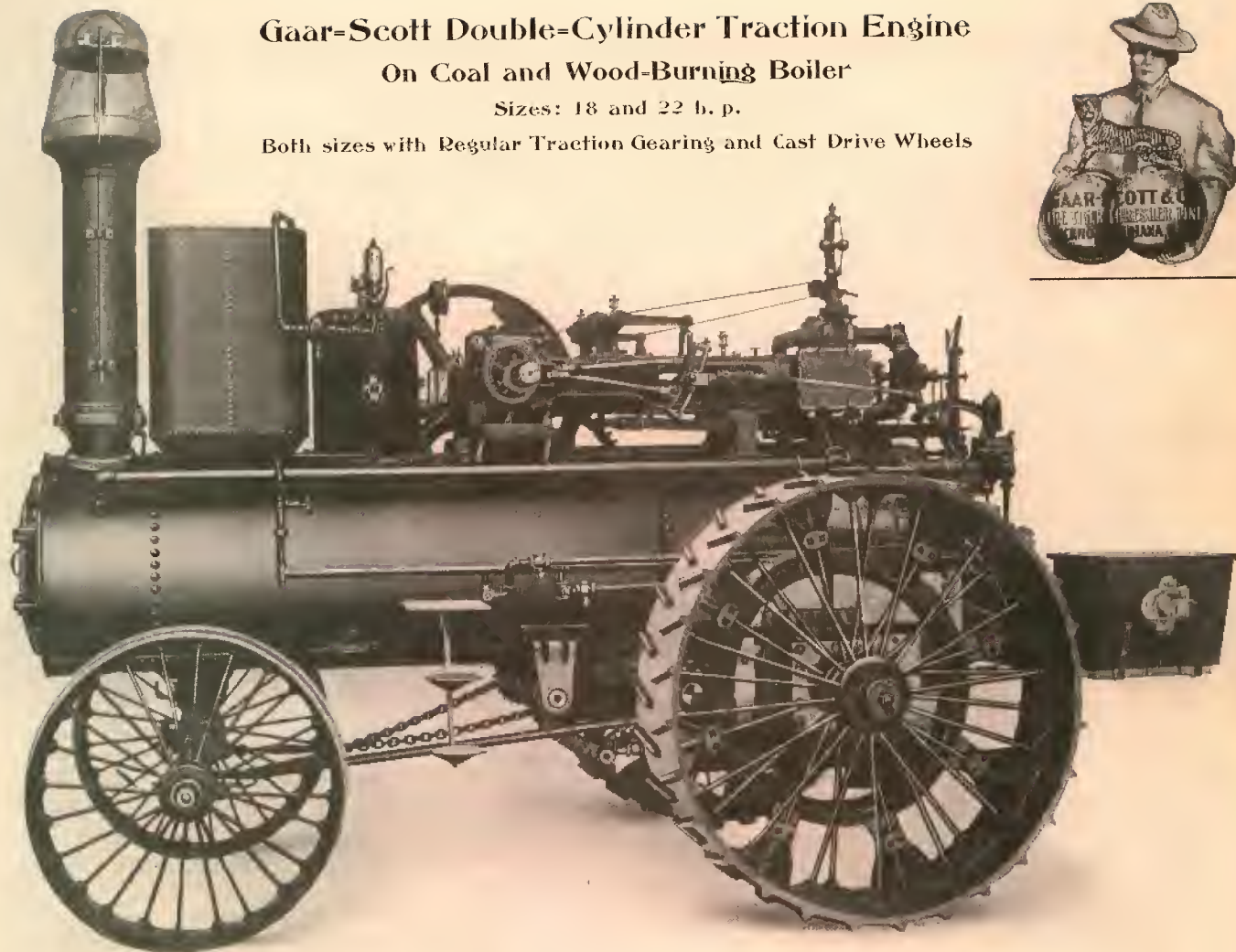


Cast Drive Wheel for Regular-Gear Traction Engines.

Gaar-Scott Double-Cylinder Traction Engine On Coal and Wood-Burning Boiler

Sizes: 18 and 22 h. p.

Both sizes with Regular Traction Gearing and Cast Drive Wheels



passing through the axle bracket on each side are secured by a nut at each end.

The Cast Drive Wheel

THESE cast drive wheels are furnished on our coal and wood-burning traction engines and our 16 and 18 h. p. regular-gear Universal boiler traction engines. Strong spokes and hub set into a solid cast rim, giving rigidity, strength, good adhesion and firm traction. The face of these drivers, as well as the cleats is chilled, making a hard surface that is wear resisting. It is a well designed wheel for soft, sticky and sandy ground, as the arrangement of the cleats is such that these soils work off of them readily.

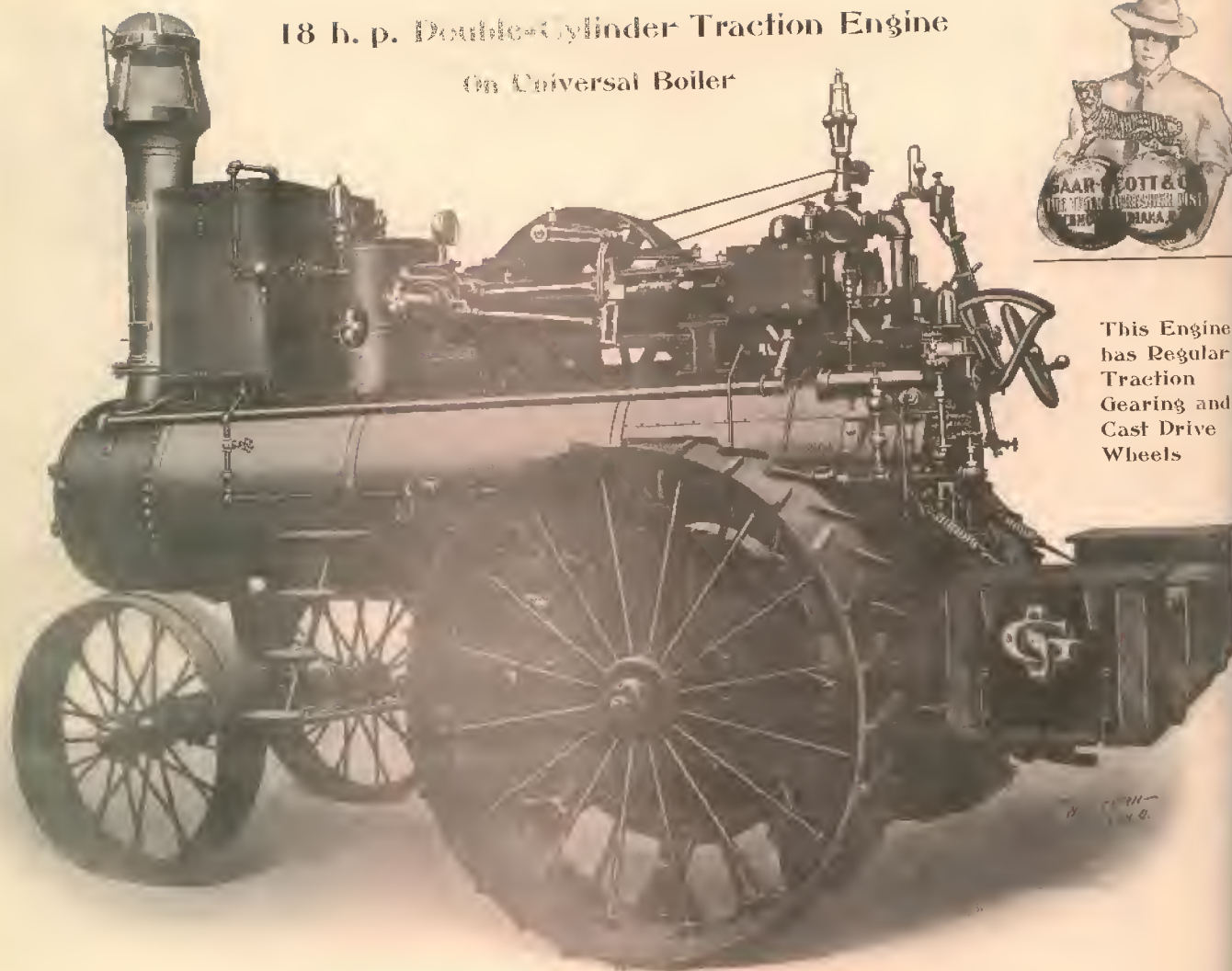
The Steering Gear

AT THE engineer's right, within easy reach is the steering wheel, and directly forward of it, the band wheel. The worm gear turns the steering roll easily, and the chains have good leverage on the front axle at any angle, straight or cramped. This roll has a spiral surface for the wrap of the chain and gives easier and more positive steering than a smooth roll. The arrangement of the ground wheels, the differential gear and the steering gear provides for short turning, and all other operating parts are where the engineer wants them to give easy and instant control of his engine. The chain can always be kept taut and any slack taken up by the turnbuckle.

18 h. p. Double-Cylinder Traction Engine On Universal Boiler



This Engine
has Regular
Traction
Gearing and
Cast Drive
Wheels



Pumps and Injectors

OUR single cylinder traction engines, except the 32 h. p., have cross-head pump. It has ample capacity and can be relied upon to do its work, under all circumstances. A heater is attached to the boiler, to be used in connection with the cross-head pump. In this way the feed water is heated in the most economical manner by using the direct exhaust. Our compound and double-cylinder traction engines have an independent steam pump. We do not furnish the cross-head pump with these styles of engines. As an additional provision for supplying the boiler with water, in case of accident to pump, we attach an in-

jector in reach of engineer, so he can start or stop while standing on the foot-board.

In connection with the steel water tank on engine we furnish a jet pump operated by steam, by which the steel tank can be filled with water, drawn by hose fourteen feet long, from well, pond or reservoir. All you have to do is, open the valve, letting steam into it.

Other Trimmings, Tools, Etc.

THE steam gauge, whistle and other brass goods are all of the most approved make. A full equipment of oil cups, glass water gauge, all necessary tools, pipe tongs, combination and other wrenches, hose and oil cans go along with our engines.

SEVENTY-FOUR-YEAR QUALITY

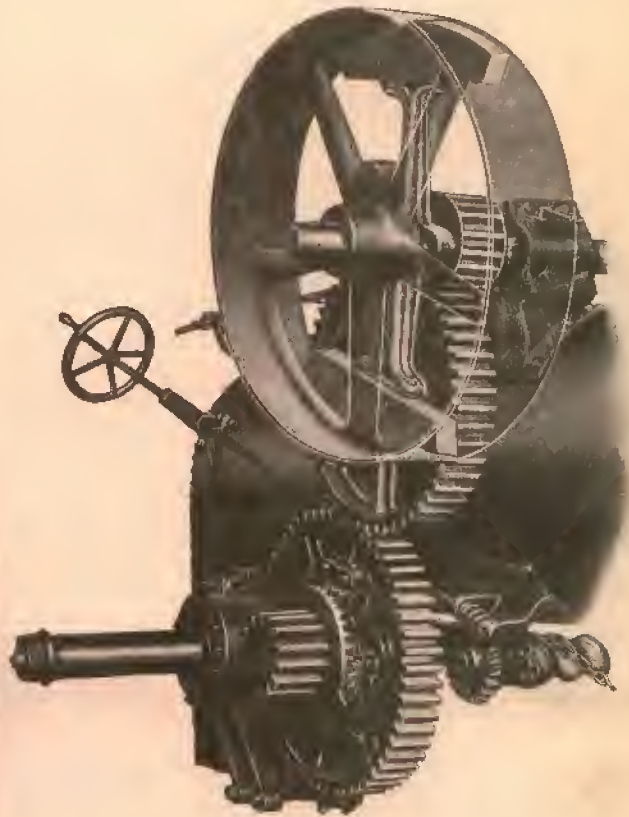
The "Tiger" Clutch

THE excellent features of this clutch are shown in the complete traction gearing illustration. It gives the engineer, from his position on the platform, instant control over the road movement of his engine so that he can start or stop its travel at will, while the engine is running. He can throw the clutch in rigidly so that the full power of the engine is exerted on the drive wheels for helping the engine out of bad places without the use of the stiff gear or rigid pinion. Or he can throw the clutch in so lightly as to be useful in backing into the drive belt to the thrasher, or tightening the belt without any strain on it. This is quickly and easily done while threshing and without reversing, as the engine is running with the right motion.



A lock pin is also provided, which can be inserted in a hole in the hub of the band wheel and a corresponding hole in the lug on the clutch pinion. This lock pin is held in position by a set screw, either when in or out of gear.

The clutch and pinion are cast together and loose on the main shaft, so that by use of the clutch lever and gib the clutch slides freely in or out of contact with the band wheel. Its arms have adjustable wooden shoes at their outer ends. These shoes are easily set out as they wear, by means of set screws.



Illustrating the Friction Clutch, Heavy Traction Gears, Steering Gear, Steel Drive Wheel and Eccentric Spindle.

The release of the clutch is positive, as the stiff arms give the engineer complete and instant control over the clutch, which is not always the case with clutches having loose jointed arms, as the centrifugal force of the revolving clutch has a tendency to keep the shoes forced out against the band wheel so that they sometimes fail to let go when desired and accidents not infrequently occur.

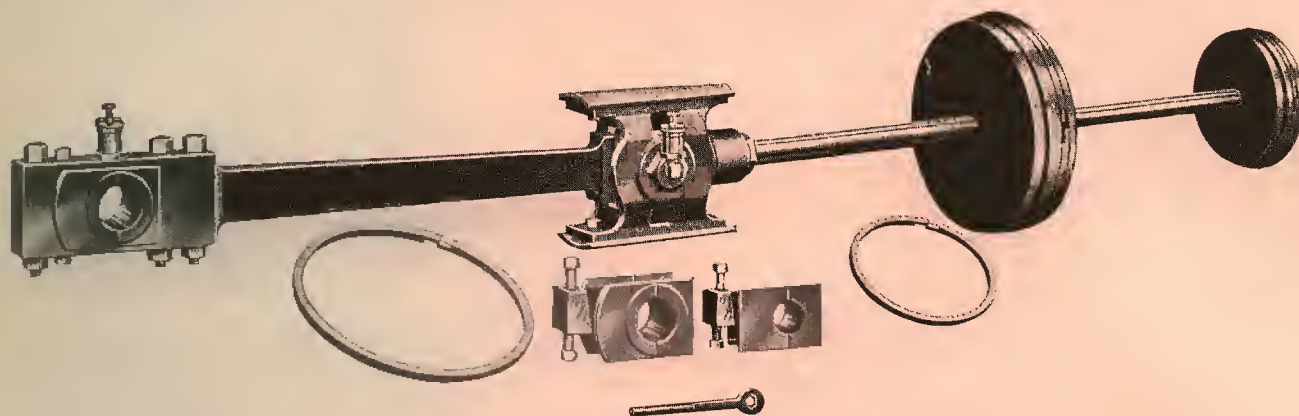


Compound=Cylinder Traction Engine

The splendid design and careful construction of this Engine for heavy traction and belt power, guarantee the best possible service and the utmost freedom from disarrangement of its working parts

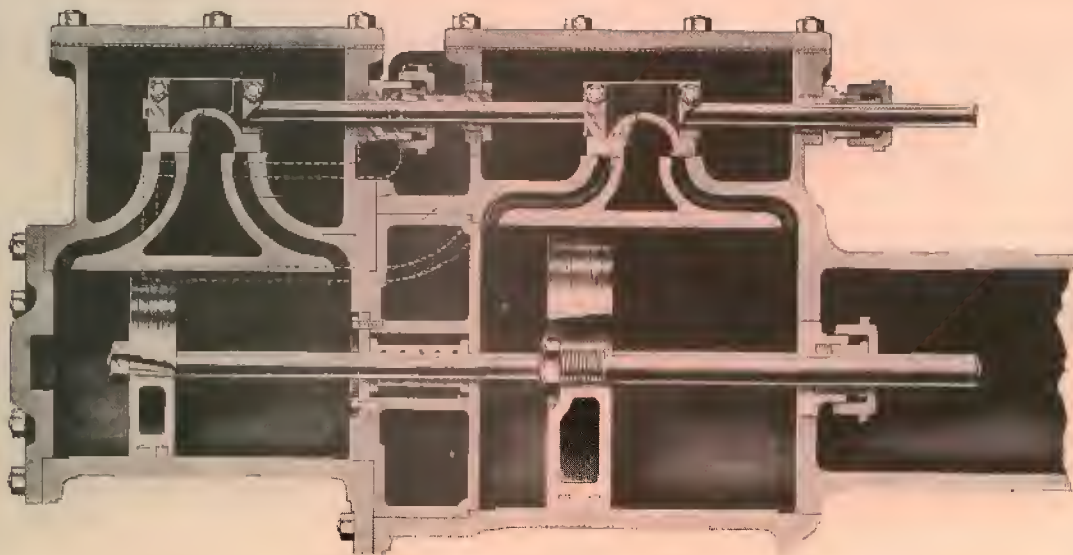


No type of compound cylinder made will show as great economy from the double expansion of steam as the Gaar-Scott tandem compound cylinder.



The forged Steel Connecting Rod, Cross-Head, Piston Rod and Heads.

One of the two piston rings from each head is shown removed, also the heavy anti-friction brass crank box and cross-head box, with taper-wedge adjustment.

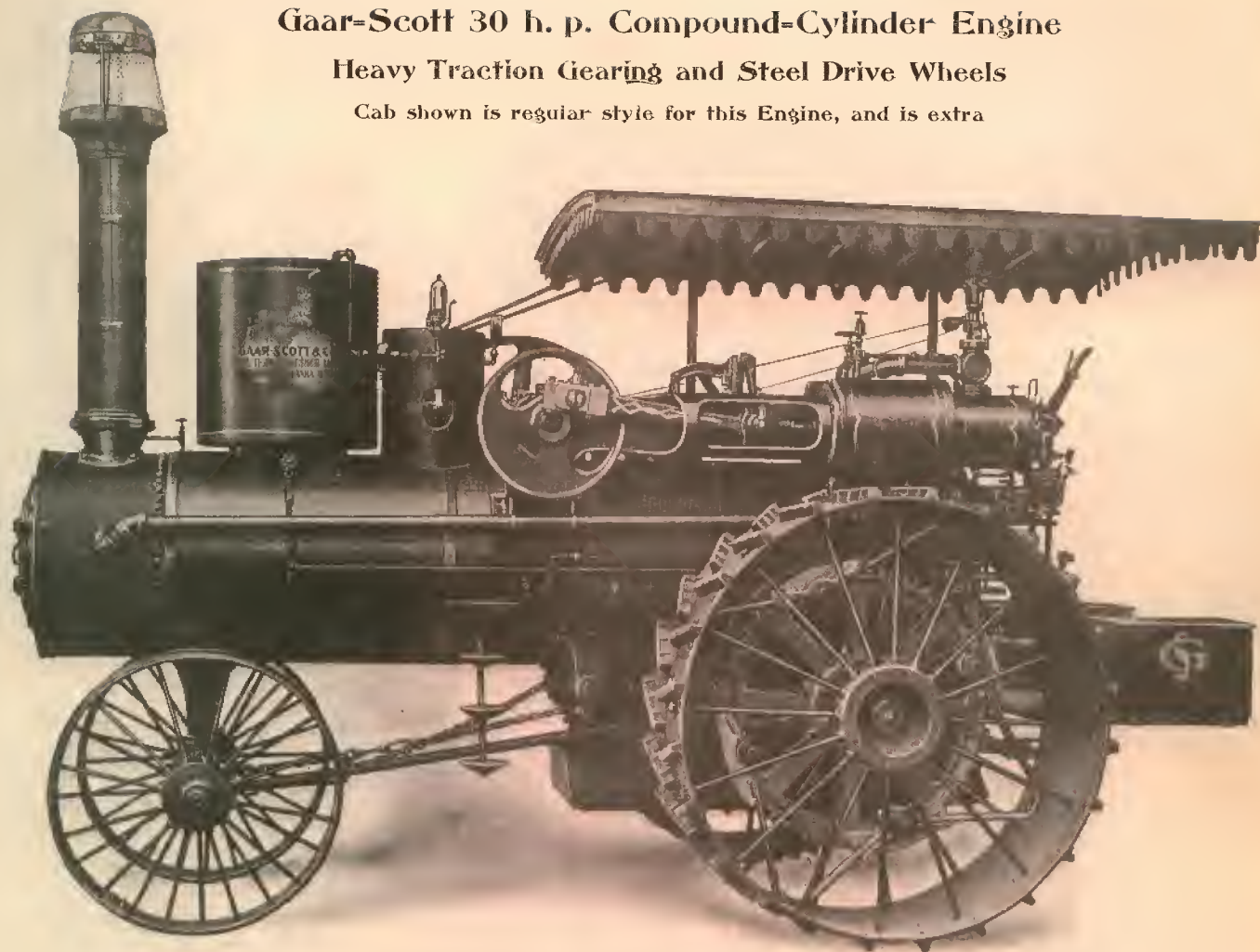


Interior View of the High and Low Pressure Cylinders, Valves and Steam Chests.

Gaar-Scott 30 h. p. Compound-Cylinder Engine

Heavy Traction Gearing and Steel Drive Wheels

Cab shown is regular style for this Engine, and is extra



C

THE demand from practical engineers who favor compound engines, is now confined almost entirely to engines of large sizes that are expected to run under an unvaryingly heavy load in plowing, freighting and kindred work. Consequently we now compound only our 30 h. p. heavy-gear traction engine, which is especially adapted for work of this character. When pull-

ing strong in belt or traction, a properly constructed compound-cylinder traction engine of large horse power, built for heavy work, shows appreciable economy in the use of fuel and water. It is only in such engines that

compounding is desirable. The advantage of this economy in especially a large plowing engine is apparent.

Our compound-cylinder engines use steam so economically that they do not have to be operated under as heavy steam pressure as most compound engines to secure the greatest advantage from the double expansion of steam. There is consequently lower fire-box temperature and a smaller range of expansion and contraction than in high-pressure compound engines. By reason of this and the evaporation of less water in the boiler, less foreign matter accumulates in it, and the life of the boiler is consequently longer.

In all essential features except the cylinder, and being equipped with an independent steam pump in-

Gaar-Scott 30 h. p. Compound=Cylinder Engine With Special Tanks and Plowing Attachments



stead of a cross-head pump, our compound engine is practically the same as our single-cylinder engine of the universal-boiler pattern on which type of boiler it is mounted. It is therefore necessary to note only the construction of the cylinders.

The Compound Cylinder

THE two cylinders are directly and strongly attached to each other, by a projection on the small cylinder and a counterbore on the large cylinder without any open space between them. This insures their being always in perfect alignment, and in this position they are bolted rigidly together. If, for any reason, access is desired to the inside of the cylinders, the small cylinder can be easily removed and then replaced in its original position, and it will

again be in perfect alignment with the large cylinder, and the connection as firm as if both cylinders were cast together.

There is no stuffing box to pack between the cylinders and only one steam joint. This is a manifest advantage over compound cylinders that have an open space between them. In the illustration of the interior of our compound cylinder we want you to notice the brass bushing between the two cylinders which takes the place of packing around the piston rod. The five grooves shown in the cross section of this bushing fill with water and oil gathered from slight condensation and contact with the piston rod as it passes through this bushing which is cooler than the other chambers of the cylinder. This makes a steam

SEVENTY-FOUR-YEAR QUALITY

packing as durable and effective as it is simple and easily replaced. A plate and three bolts hold the bushing in position. Three set screws also hold the center head in position.

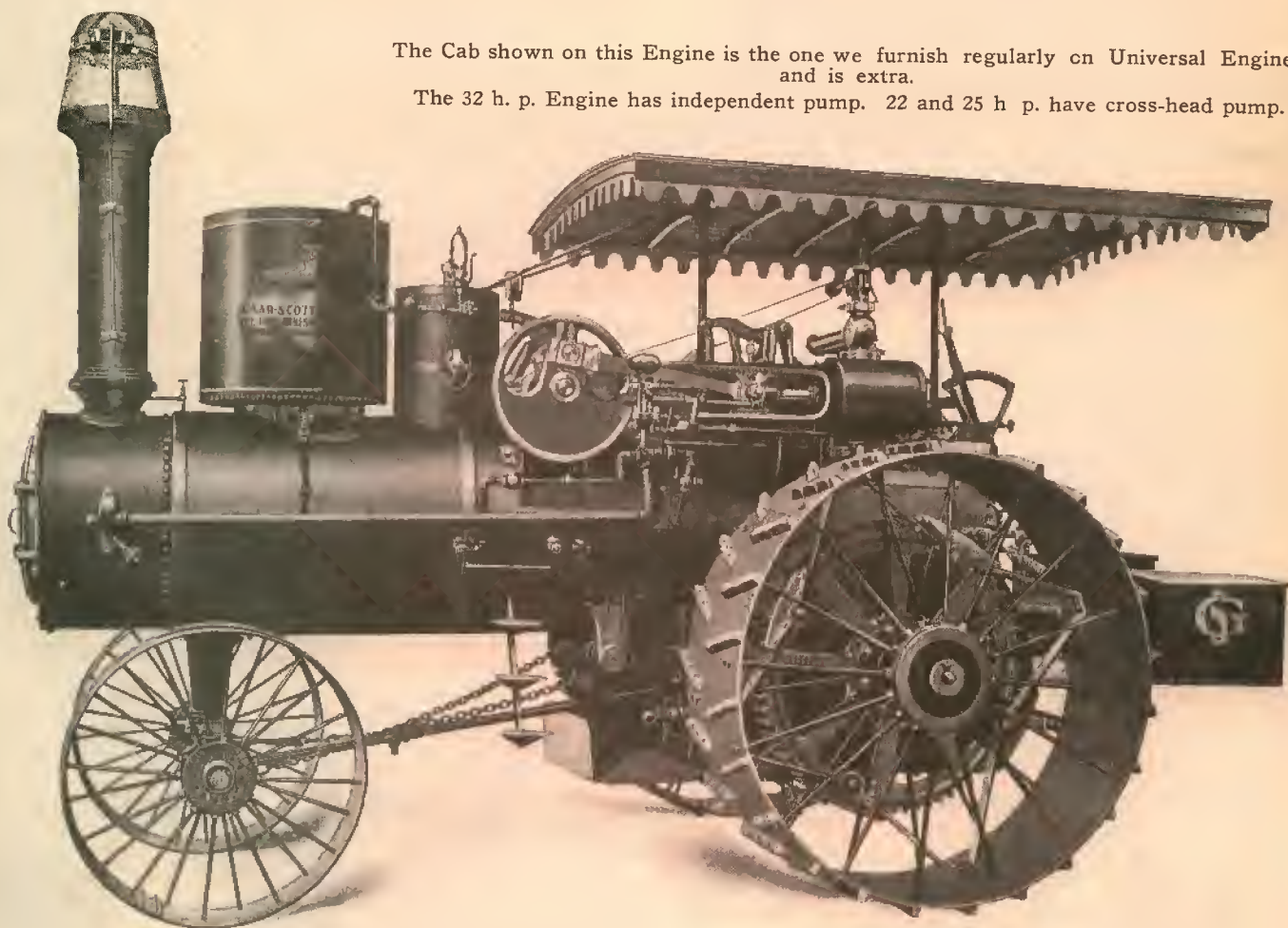
A small steam pipe, with a valve is put on the boiler for the purpose of carrying the steam direct to the large cylinder, so that, in an emergency or hard pull, the engineer can turn on steam and get the full direct pressure of steam in the large cylinder, for a limited time, supplementing the exhaust steam from the small cylinder.

The cylinder is jacketed in conformity with the boiler and dome.

The large low pressure cylinder and the small high pressure cylinder are the same pattern as our single cylinder which is described under that head. The "D" slide valves, steam chest, ports, exhaust and piston are also similar in construction. The piston rod is screwed through the large piston head and a jam nut holds it securely in position. A similar nut secures the small piston head attached in the same way.

The Cab shown on this Engine is the one we furnish regularly on Universal Engines, and is extra.

The 32 h. p. Engine has independent pump. 22 and 25 h. p. have cross-head pump.



Gaar-Scott Single-Cylinder Universal-Boiler Traction Engine

With Heavy Gearing and Steel Drive Wheels Sizes: 22, 25 and 32 h. p.



Other Types of Heavy-Gear Engines

Single and Double Cylinder

THE CONSTRUCTION OF THE TRACTION GEARING AND SPECIAL PLOWING FEATURES



CONSTANT improvement is the price of excellence. No one realizes this better than the manufacturer of traction engines. New uses require new and special adaptations, and improved devices and conveniences crowd out the old with such unremitting frequency that the manufacturer who has paid the price of excellence and justly earned that reputation for his engines, by the most modern and honest construction, can not afford, for a single season, to relax his zeal for new discovery and betterment. On the other hand, he must not let his zeal carry him to the point of rash and hasty mechanical conclusions without the most searching and satisfying tests.

Some manufacturers find it profitable to take advantage of the innate desire of their customers for something new, and they supply this demand with untried types of engines that a conscientious manufacturer, with a reputation for quality at stake, will take years to develop and perfect. An engine, like a chain, is no stronger than its weakest part, and the weak parts do not always show themselves in the test house, but are brought to light by months or perhaps years of actual service. This is especially true of plowing engines. The heavy stress to which traction engines have been subjected since the development of traction plowing, has revealed the weak parts and made it plain that the successful plowing engine which could be operated profitably must have, primarily, plowing construction and strength of gearing, shafts and bearings, ample for the horse-power rating of the engine plus generous emergency power.

The large number of Gaar-Scott heavy-gear traction engines—single cylinder, compound cylinder and double cylinder—that have been in use for the past seven or eight years in drawing different kinds of plow rigs and gangs in all kinds of soils, freighting, ditching, road construction and other heavy traction work, have given most convincing and gratifying tests of their special adaptation to these latter-day uses and to their extreme durability as well as economical and profitable operation.

We build the following sizes and styles of Traction Engines, with extra heavy traction gearing, 5 and 6-inch face, and steel pinions:

Cipher Word

Whang	22-H. P., Single Cylinder, on Universal Boiler.
Whapper	25-H. P., Single Cylinder, on Universal Boiler.
Waterloo	32-H. P., Single Cylinder, on Universal Boiler.
Whale	30-H. P., Compound Cylinder, on Universal Boiler.
Whangdubl	22-H. P., Double Cylinder, on Universal Boiler.
Whapdubl	25-H. P., Double Cylinder, on Universal Boiler.
Wellington	40-H. P., Double Tandem-Compound Cylinder on Universal Boiler.



SEVENTY-FOUR-YEAR QUALITY

The Heavy Traction Gearing

C

WE use only metal cut patterns for our gears, they are true as can be made with perfectly formed teeth. We take every precaution to see that the metal is of uniform grade to wear well and evenly. The gears regularly furnished with our heavy-gear engines are five and six-inch face. When the engine is ordered for plowing, all steel pinions are used. With this re-

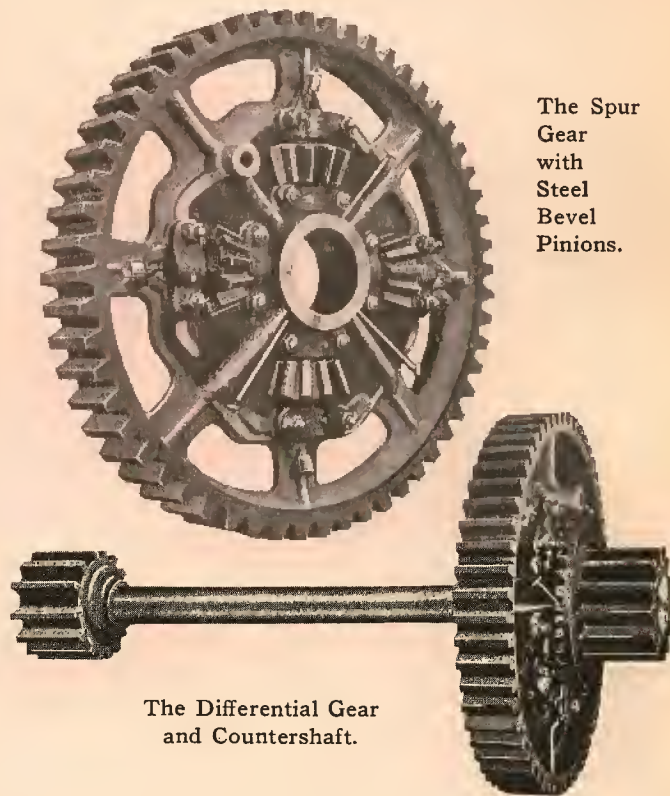
liable gearing, and the adjustment which our eccentric spindle provides, uneven wear and chipped cogs are avoided.

The experience of shop and field teaches that engines which have properly constructed gears with dependable strength are only weakened and rendered more susceptible to wear and breakage, besides making the traction force less positive by the use of springs, links, etc., with numerous wearing parts. These destroy the integrity of the gearing by varying the distance between the shaft centers. The consequent improper meshing and uneven strain on the gears strip the cogs or soon wear the gears so that they have to



The Master Gear with Hub of Steel Wheel bolted on.
In our heavy-gear engines this gear is 6-inch face.

be replaced. The truth of this is best verified by the builders of such engines, themselves, when they recommend the displacing of these springs, etc., by solid blocks, in plowing or heavy freighting. When this is done, the discovery is too often made that the gearing is not built or mounted strong enough for heavy traction stress without cushioning.



The Spur Gear with Steel Bevel Pinions.

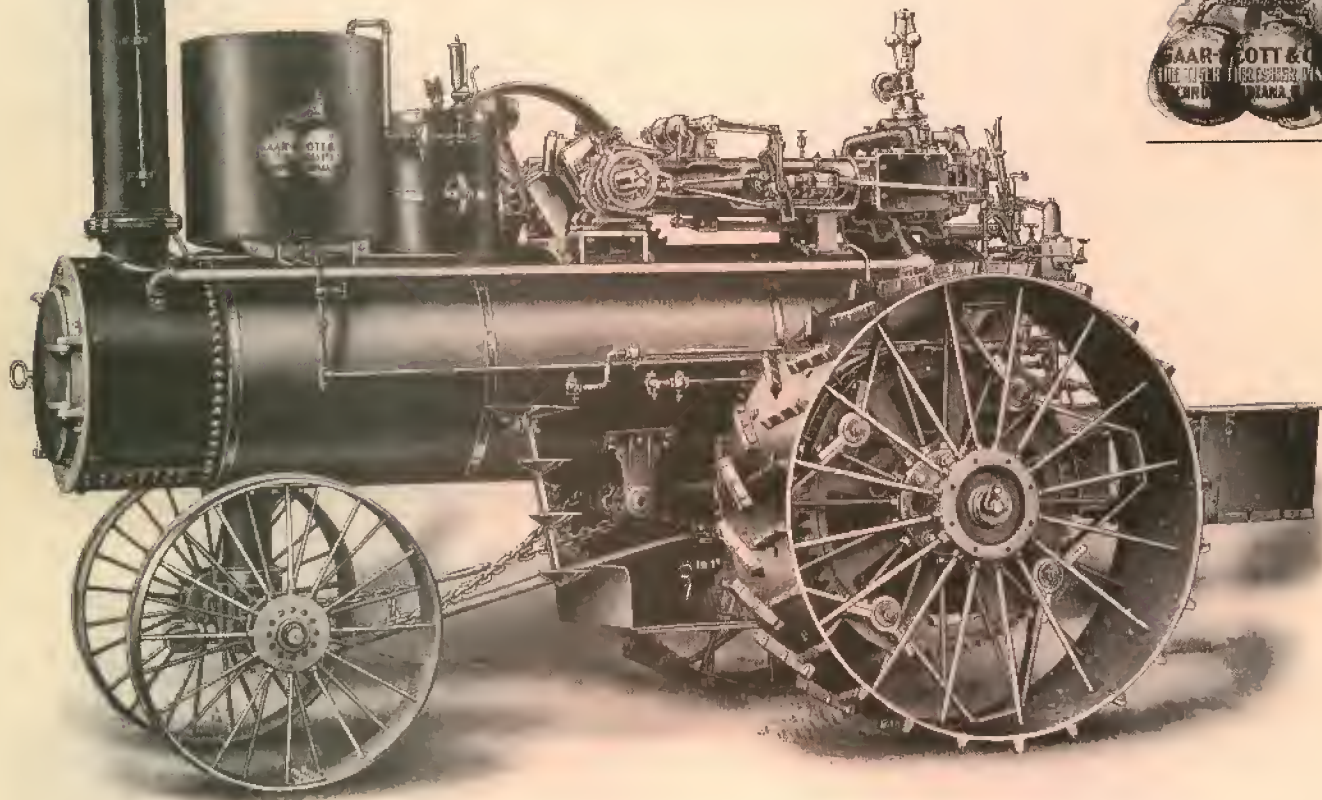
The Differential Gear and Countershaft.

The Differential Gear

THE manner of transmitting the power of the engine to the traction gears through the clutch and spur pinion, is nicely shown in the accompanying illustration. The idler spur gear revolves on a strong stub axle with a large and heavy bracket attached to the shell of the boiler, and transmits the power to the differential gear.

Having a spur drive pinion at both ends of the counter-shaft, avoids counter-shaft troubles by giving an even pull with minimum strain. These pinions engage the master gears on both drive wheels.

GAAR-SCOTT DOUBLE-CYLINDER ENGINE
On Universal Boiler
With Heavy Traction Gearing and Steel Drivers
 Sizes: 22 and 25 h. p.



The one shown on the left-hand end of the shaft is keyed to it, while the one on gear end revolves on it. This latter pinion is cast together with a bevel gear wheel. A similar bevel gear wheel opposite is keyed on the shaft, and between them the spur gear with bevel pinions revolves on the hub of this inner bevel gear wheel. The traction power applied to the spur gear is transmitted through its four bevel pinions, to the bevel wheels and spur pinions and by the latter to the master gears in a way that permits the drive wheels to travel equally or either one slower or faster than the other.

Please notice the strong design of our spur gear and that it carries four steel bevel pinions. This construction is very superior to spur gear with only three pinions, by reason of its greater and more even bear-

ing, strength of gearing and of transmission. The spur gear in our large engines is lubricated by three oil tubes which are necessary in oiling the extra large bearing.

Should it be desired to have both drive wheels revolve together to help one of them out of a bad place and increase the traction, slipping the lock pin into the gearing accomplishes this.

The Countershaft and Brackets

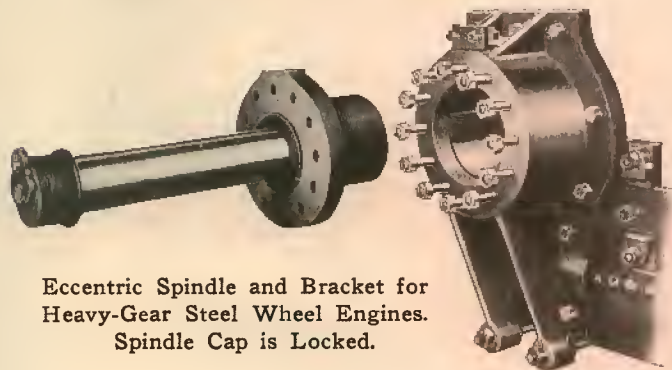
THESE are given our particular attention. Our countershafts are made from the best high carbon cold-rolled steel shafting, and turned their entire length. The shaft and brackets in each size of traction engine are amply heavy and strong to withstand any traction stress likely to be put upon them by the full power of the engine in the work the engine is de-

SEVENTY-FOUR-YEAR QUALITY

signed and recommended to do. The bearings are long, lined with best babbitt and have free lubrication. The brackets are attached to the fire-box in a way that stiffens it and does not put any strain upon it detrimental to the heavy fire-box plates.

Traction Gear Oilers

GEAR oilers are furnished with our heavy-gear traction engines outfitted for plowing. These oil cups are capacious and designed for the use of inexpensive crude oil. A valve under the cup regulates or stops the feed. One of these oilers is placed over each pinion and one on the guard over each master gear.



Eccentric Spindle and Bracket for Heavy-Gear Steel Wheel Engines. Spindle Cap is Locked.

Description

A MOST desirable feature in our heavy gearing is our eccentric drive wheel spindle. The illustration of gearing shows this but slightly. The spindle is off of center with its round stub-axle and its circular lug that always fit the axle bracket when turned in any direction. The spindle may thus be turned to set closer to or farther from the countershaft pinion, making a closer or looser mesh of this pinion with the master gear to allow for slight variation in size or shrinkage of any new gear that may be substituted, or for wear in old gear.

The spindle is kept lubricated uniformly by four large grease cups.

The Steel Drive Wheels

ALL of our heavy-gear traction engines, 22 to 32 h. p., inclusive, are furnished with steel drive wheels 76-inch diameter and 26-inch face. The rim is universal plate steel that has a strong, tough fiber,

so that there is no danger of cracking or breaking, the cleats are malleable iron and riveted on in order that they may be replaced if long wear should make this necessary. They are high and the right shape to give firm traction in loose soils. They are set diagonal in two staggered treads, so that adhesive soils work off readily—our original design, patented by us nearly a quarter of a century ago, and which made our drivers so popular that they have been widely copied by other manufacturers in recent years.

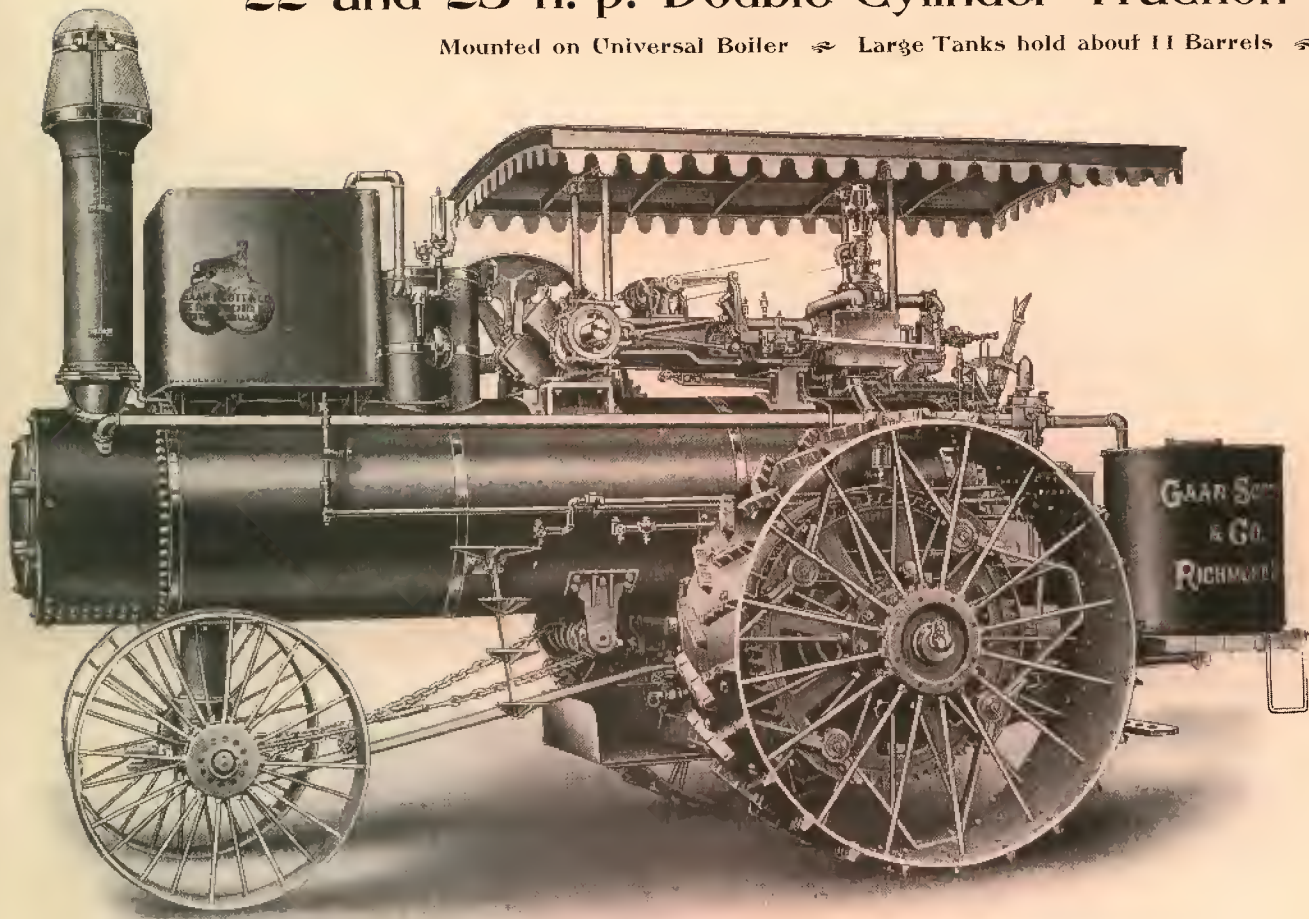
There are two rows of heavy steel spokes which pass through the rim and screw into the hub where they are secured by a lock nut. Any of the spokes may be readily replaced should accident make it necessary. The wide, flat, steel braces give rigidity and strength, without unnecessary weight. The hub is extra wide, and every part about the wheel built to last the lifetime of the engine.



26-inch-face Steel Drive Wheel and 10-inch-face Extension. Diameter, 76 inches.

22 and 25 h. p. Double-Cylinder Traction Engine

Mounted on Universal Boiler & Large Tanks hold about 11 Barrels & It gives the



The boilers in these Double Engines are large quick steamers. The main crank shaft is forged from a single

The Front Wheels

THESE are also steel, 48-inch diameter and 12-inch face, on our heavy-gear engines, have raised center rim to facilitate steering and prevent side slipping, and the steel spokes are screwed into the hub and secured by jam nuts.

The Steel Drive Wheel Extension

IN PLOWING loose soils or land that has been recently cultivated, an extra wide drive wheel face is sometimes desirable. Our steel drivers are so made that a steel supplementary wheel can be added at any time or quickly removed. The illustration shows clearly how it attaches. It adds 10 inches to the face

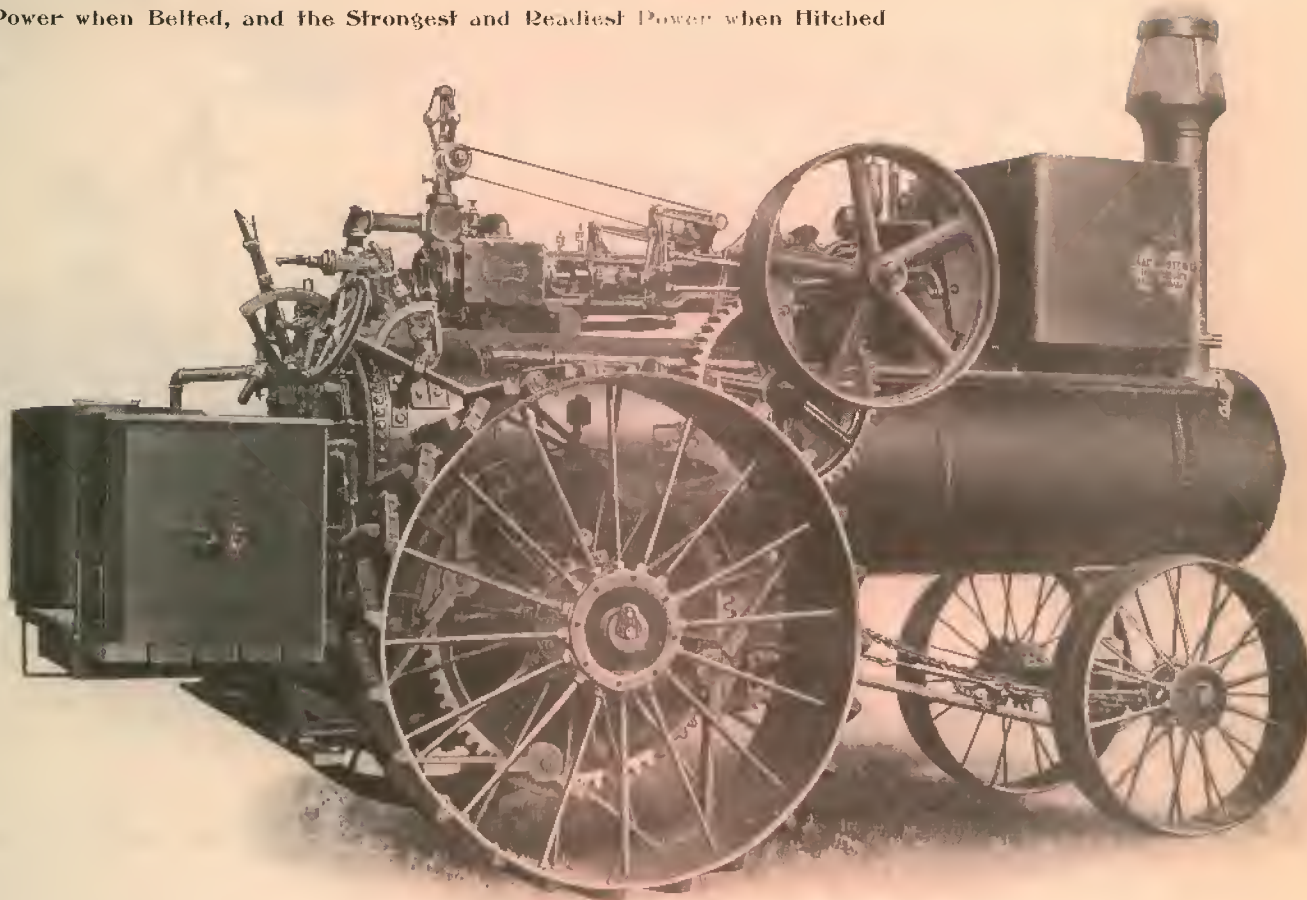
of the drivers, giving them a tread of 36 and 40 inches, and making them the most substantial wide-face drive wheels ever used on an engine.

The Water Tanks and Fuel Box

FOR successful plowing, a constant supply of fuel and water is necessary, so we attach to our heavy-gear engines, when ordered, an extra wide and heavy platform with a large steel water tank and fuel box. We also furnish an extra large steel water tank on the boiler. These are shown in illustrations of these heavy-gear engines and have capacity enough to keep the engine well supplied and "on the go" without loss of time waiting for the tender.

with Heavy Plow Gearing and Attachments

Steadiest Power when Belted, and the Strongest and Readiest Power when Hitched



piece of steel, turned to 3½-inch diameter, and its pull evenly distributed between two heavy self-oiling boxes.

IN CONNECTION with the platform support there is also a plow hitch which is made of heavy steel throughout. It is thoroughly braced almost the entire length of the hitching bar, and the large main channel platform supports are bolted to heavy plates on the fire-box. The braces

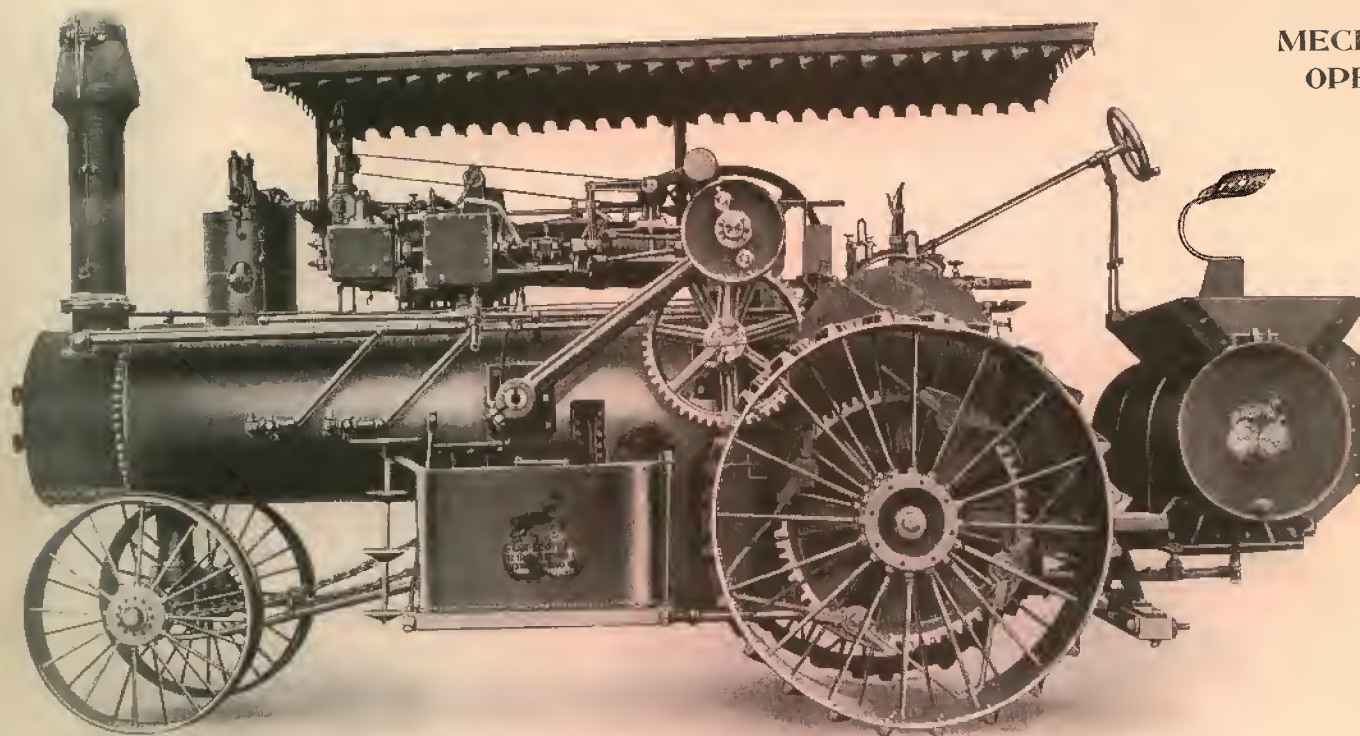
mentioned being bolted to the fire-box, as shown in the illustration. This is a very handy and substantial hitch and meets all conditions for drawing any convenient number of plows in the hardest soil.



All-Steel Platform Support and Unbreakable Hitch Built to Withstand Heavy Traction Stress.

The Gaar-Scott "Forty" Special Plowing Engine

MECHANICAL
OPERATING
and



Plowing Engine Construction Throughout—Strong All Steel Gearing, Large Shafts, Splendid Plow Hitch

Gaar-Scott Double-Cylinder Traction Engines

THE Gaar-Scott line of double engines covers the whole range of traction engine work. Our 18 and 22 h. p. coal and wood burners and our 18 h. p. engine on universal boiler, all with regular traction gearing, are built for the man who does principally threshing. Our 22 and 25 h. p. heavy-gear double engines are engines-of-all-work—double "Tigers" in a pull or in the belt. Our 40 h. p. double tandem-compound cylinder engine is built especially for the man who makes plowing or heavy road construction, grading, etc., his principal business, and who is not satisfied to limit his work to the capacity afforded by even the largest general-purpose heavy-gear engines.

We have many such customers. Some of them induced us several years ago to build a special plowing tractor that would meet every demand they might put upon it. We concentrated on this task all our

accumulated years of experience in engine building, and a very successful experience with general-purpose double-cylinder engines. Our efforts were rewarded by a very superior type of engine that stands practically alone in its class.

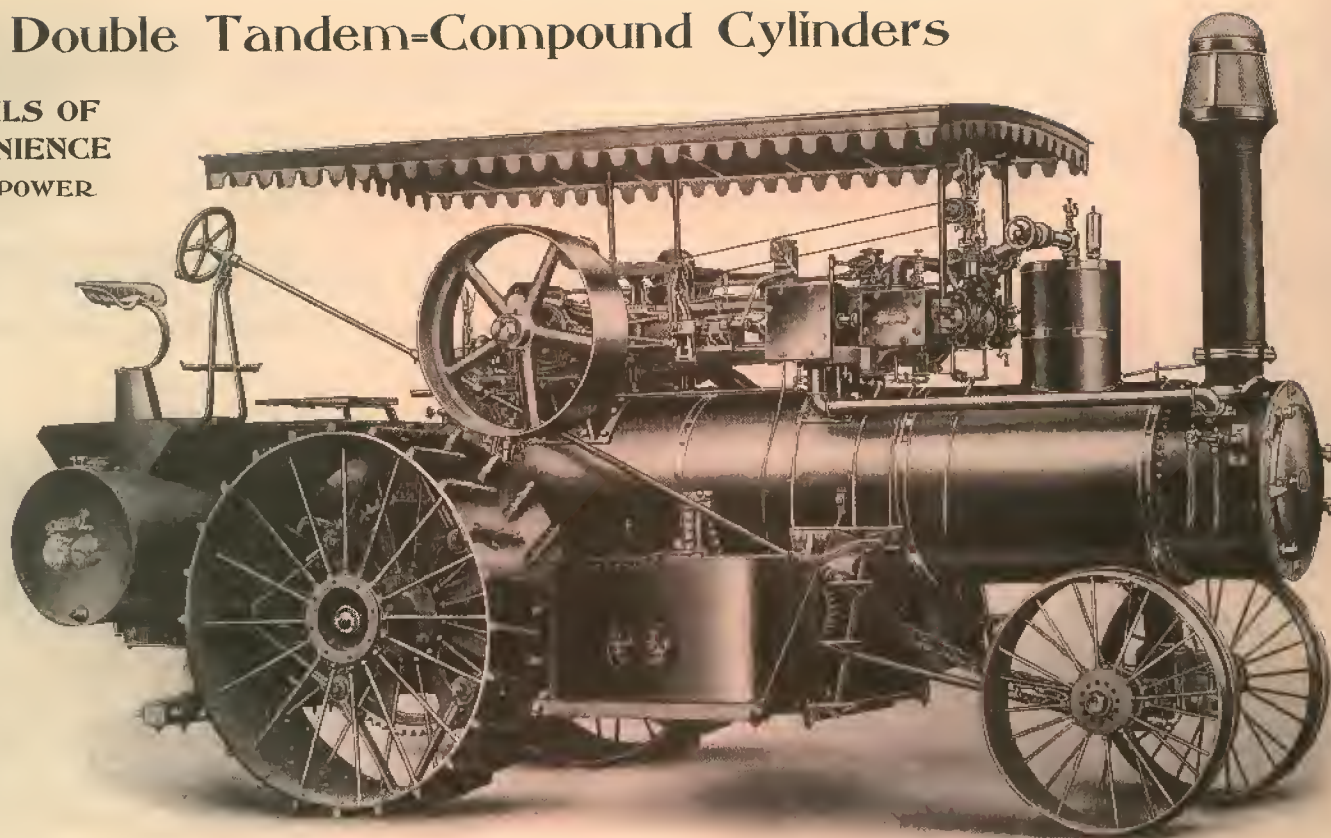
Without showing a weak spot, many of these engines have had three years of the hardest service in the baked adobe soils of the Southwest, up through the semi-arid West, the great wheat fields of the Northwest, and across the line into Canada.

The strong traction gearing is all steel and supplied with oilers. It is amply strong for the most severe traction stress likely to be put upon it.

The heavy shafts are so well balanced and have such long bearings that they will not spring, twist nor vibrate. Notice especially the heavy arm that steadies the clutch end of the crank shaft from a bracket stud on the side of the boiler.

ine With Double Tandem-Compound Cylinders

CAL
TINC
and
MARVELS OF
CONVENIENCE
USABLE POWER



Hitch **Beam, Large Coal Hopper, 21-Barrel Tanks and 30-inch-face Steel Drive Wheels with 10-inch Extension.**

The well oiled eccentric spindles and the 30-inch-face steel drive wheels with 10-inch extension are admirable plowing engine features that have been previously described.

The plow hitch-beam is extra strong and convenient for hitching any desired number of plows or other machinery.

The coal and water carrying capacity are the most ample. Beside the large 11-barrel rear tank there are two side tanks that hold 10 barrels.

The boiler is our well known universal pattern—a full, free steamer especially needed in a plowing engine.

Without loading the engine down with excessive weight of its own, and to save its power as much as possible for its pull, we use practically four cylinders on this engine—two of our double tandem-compound cylinders—the most economical steam cylinders that

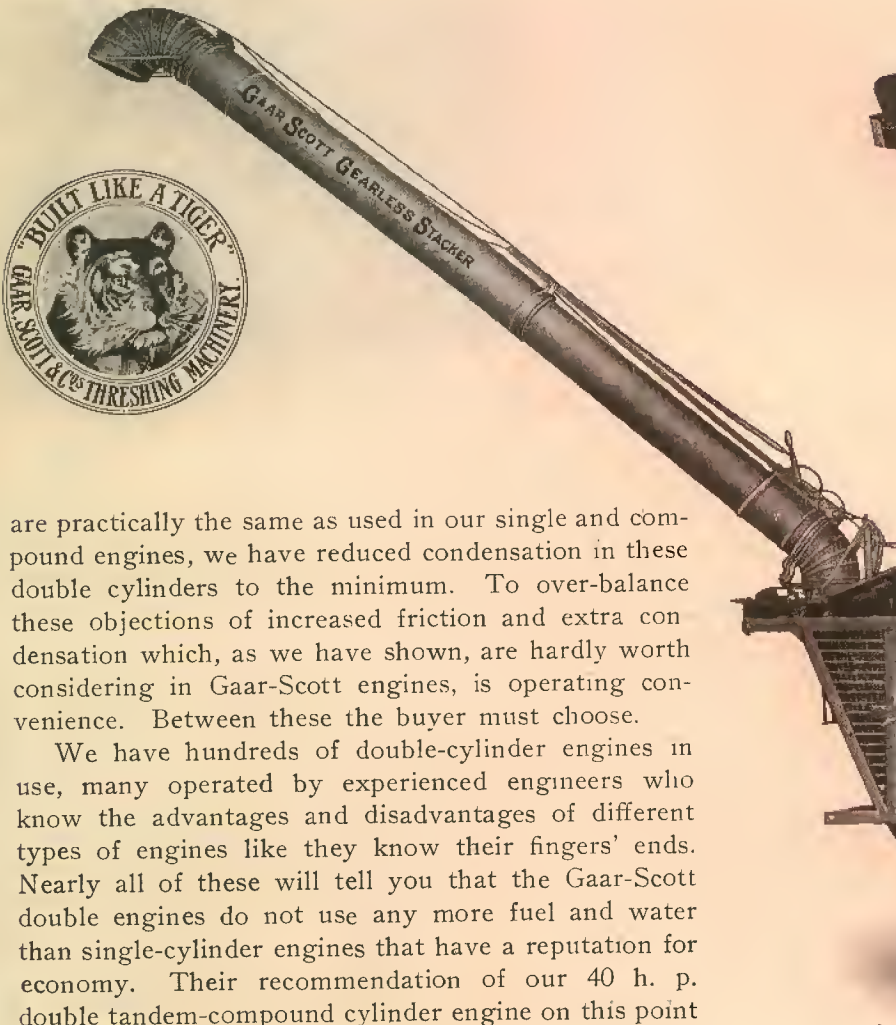
can be built, as before shown in the matter under that heading. These cylinders convert into working power every ounce of steam that is admitted into the steam chest and develop as much power as could be gotten from the steam generated by a much larger boiler with ordinary cylinders.

The fundamental advantage of the double-cylinder engine, as every engineer knows, is that the power is applied on the main shaft constantly. As there is no dead center, the engine starts in any part of the stroke by simply opening the throttle valve. Gaar-Scott double-cylinder engines are especially noted for their smooth running. You can start slowly with a heavy load, without any jerk, and run on a steady, even pull. This is of special advantage in a plowing engine.

Every precaution to safeguard the accurate, durable and suitable construction of our other types

of engines, has been taken on our double-cylinder engines, including the design, the selection of material and workmanship.— Every one of these engines is a marvel of operating convenience and working power. Those with heavy traction gearing are built throughout to withstand the terrific stress incident to the work they are designed and recommended to do, and to be conveniently and quickly handled in the most difficult places and under the most severe conditions.

“More working parts, more friction” is a truism in mechanics. Overcoming this, as far as possible, has been a careful study with us in the design and fitting of the parts of our double engines. By the most accurate construction of our cylinders and valves, which



are practically the same as used in our single and compound engines, we have reduced condensation in these double cylinders to the minimum. To over-balance these objections of increased friction and extra condensation which, as we have shown, are hardly worth considering in Gaar-Scott engines, is operating convenience. Between these the buyer must choose.

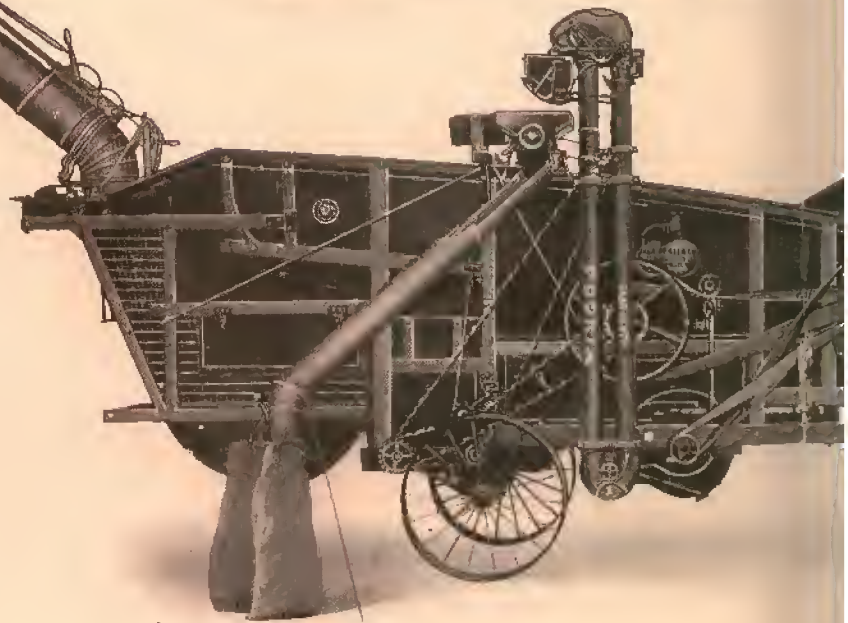
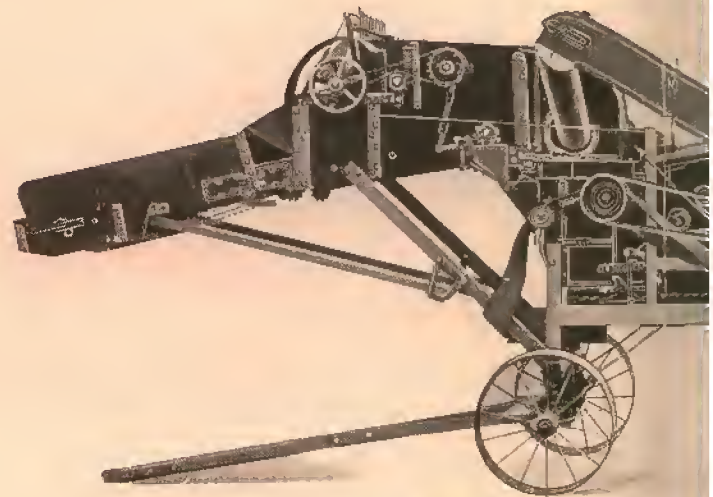
We have hundreds of double-cylinder engines in use, many operated by experienced engineers who know the advantages and disadvantages of different types of engines like they know their fingers' ends. Nearly all of these will tell you that the Gaar-Scott double engines do not use any more fuel and water than single-cylinder engines that have a reputation for economy. Their recommendation of our 40 h. p. double tandem-compound cylinder engine on this point is especially strong.

Right and Left Side Views of the

1909 M

With Gearless Wind Straw-Stacker, Self-Feeder

Throw on the belt and faithful "Tige" is ready to growl, shell out

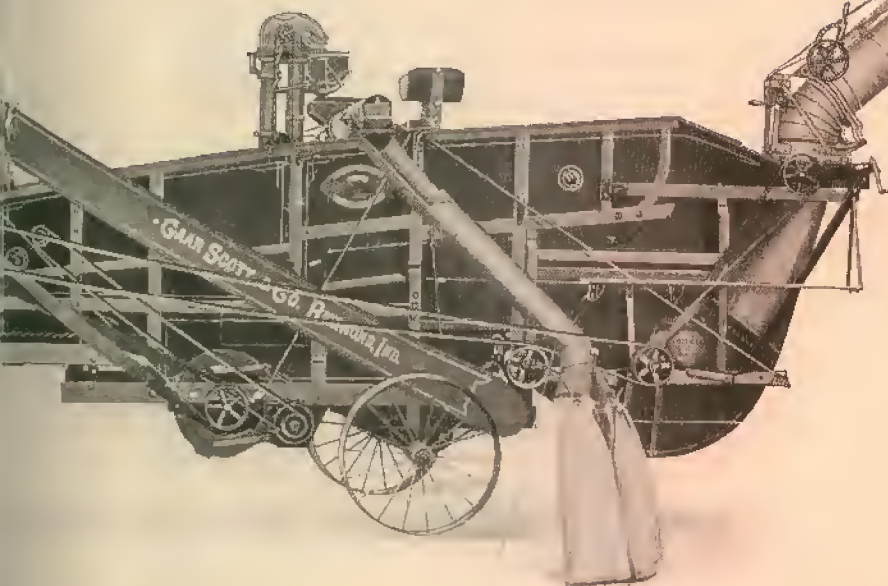


the Gaar-Scott Tiger Thresher

Model 

Feeder and Weigher in position for business

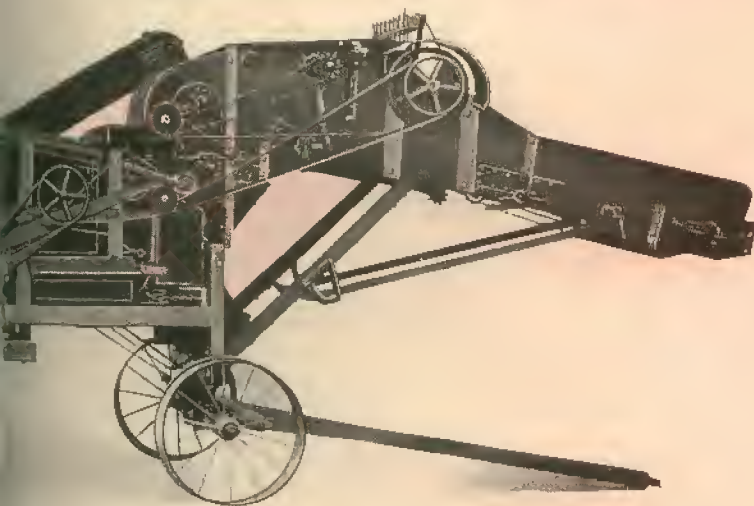
Put out the clean, whole wheat and rake in the clear, ready cash



*"Talking" Quality wins new customers, but **Delivering** Quality holds them.*

We are now delivering 74-YEAR-QUALITY.

By this mark ye shall know it:





L. B. Luper, Tangent, Oregon, owner of this 22 h. p. Single-Cylinder Heavy Gear Engine, says he is breaking and harrowing 25 acres a day with 12 plows and a 11-foot harrow, in ground horse power could not touch.



Gaar-Scott 40 h. p. Double Tandem-Compound Engine, Owned by O. R. Hamre, Leonard No. Dak., pulling twelve 16-inch plows and two 8-foot drills.



28 Disks—a pretty fair string, but an easy load for the Gaar-Scott Forty. Broke 128 acres in 24 hours. Courtesy of J. H. Watts, Crowell, Texas.



The Gaar-Scott "Tiger" Thresher

"The Sack and Pocket Filler"

That is what the owners and particular grain growers call it.

It fills the sacks with *clean, whole wheat*,
and the pockets with *clear, ready cash*.



IF YOU are an experienced thresherman, every year you thresh you gain new experience that is valuable to you, don't you? It is not unreasonable to suppose that the same holds good with ourselves. Another thing we have both learned is that without experience theory is worthless. Don't you think our seventy-four years' experience, all in one line of manufacture, ought to count for something, especially when we combine with it a mechanical staff that affords the soundest counsel, and a force of the most skilled mechanics to be had anywhere?

But we never allow ourselves to suppose that we know all there is to be known about threshing machinery. We don't forget that other men sometimes find out things that we perhaps have not thought of. Every year we spend much valuable time and money in studying the lessons of the field, reviewing the old ones and comparing notes with the facts and theories gathered by the men who operate our machinery, as well as other makes of machinery, in all parts of the country, because in various sections local conditions come into play and often make necessary a modification of the principles that experience has shown are especially applicable to other localities and conditions. Consequently in using the experience of others the manufacturer of threshing machinery must apply that rarest of all knowledge—common sense—in selecting the experience by which he is to be guided.

This makes the building of an ideal, general-purpose threshing machine no easy task. All the resources gathered from the longest manufacturing experience in our line are drawn upon to produce our present model grain thresher. While we have improved the general design of the Gaar-Scott thresher, altering its external appearance to give it the strongest and most compact frame and housing, and the lightest and most substantial trucks, its working parts have not been materially modified. These operating parts have been so thoroughly tried out over such a long period of time, under all possible conditions and in every grain growing section of practically the entire world, and have shown such marked superiority over other types of grain threshers, that improvement is not regarded within the range of modern mechanical skill and knowledge.

SIZES OF GAAR-SCOTT THRESHERS

Cipher

Warden... ..24-inch, 12-bar cylinder; 40-inch rear.
Wardrobe.....28-inch, 12-bar cylinder; 40-inch rear.
Warfare.....31-inch, 16-bar cylinder; 49-inch rear.
Warmth.....33-inch, 16-bar cylinder; 52-inch rear.
Warp.....36-inch, 16-bar cylinder; 56-inch rear.
Warrior.....36-inch, 16-bar cylinder; 60-inch rear.
Watch.....40-inch, 16-bar cylinder; 64-inch rear.
Weaken.....44-inch, 16-bar cylinder; 68-inch rear.

All of these Threshers have the three-way-crank shaft to drive the separating racks, and ample separating room behind the cylinder. We attach self-feeder and wind straw-stacker to any of these sizes.

The 31-inch cylinder and larger threshers are extra long by comparison with the smaller sizes, have extra heavy frames with the strongest possible trussing and bracing needed in these heavy threshers.

THE GAAR-SCOTT "TIGER LINE"



AAR-SCOTT threshers have demonstrated over and over again that they are unsurpassed not only in threshing, cleaning and saving wheat and oats—grains that all general-purpose threshers are designed primarily to handle—but also in rice, flaxseed, timothy, speltz, barley, rye, buckwheat, millet, bromegrass and alfalfa. In all these its work is as perfect as if it had been designed especially for the particular grain threshed. Of course, the varying nature of different grains and seeds, and of the same grain in different localities, requires slight changes in one or more members of the thresher to adapt it especially to the crop and conditions.

A Frame Built for Strength and Service

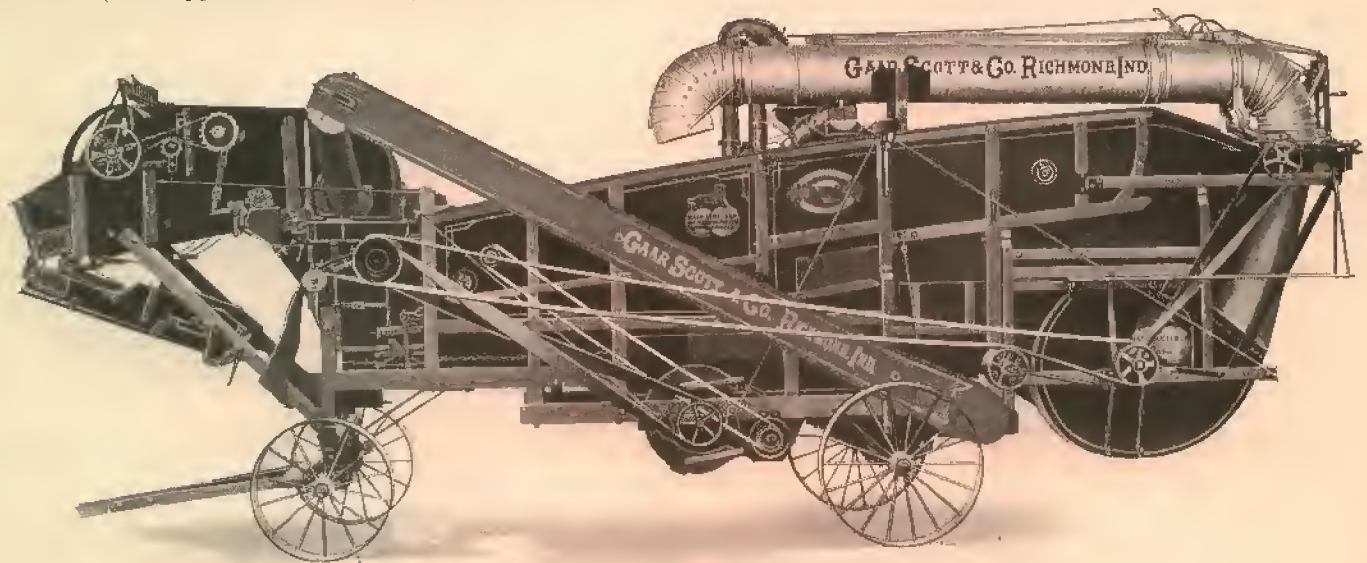
THE panels and heavy framing timbers are made from the best, thoroughly seasoned and selected stock. All joints are carefully mortised, leaded with a brush (not dipped), and securely bolted.

Please notice the substantial truss rods on the sides of the thresher and the heavy cross beam with large cast brackets at each end to keep the frame upright and square. "X" rods under the deck of the thresher, connect the corner posts and make it non-twisting, when kept tight. With this trussing and this splendid frame properly cared for, there will be no forward or backward lean to the frame, and no sag in the center. On all of our 36-inch cylinder and larger threshers the front frame is trussed by double rods running from the bolster to the cross timber above, as illustrated in the open front view of the Gaar-Scott thresher.

The outlines of the frame are very symmetrical, and the general architectural design and finish are all that the most particular thresherman could ask, but in not a single feature has there been any sacrifice of substantial construction to appearance.

Bolster Screw Jacks

AS a further precaution to prevent any possible racking of the frame by careless setting, and to have the machine set level and rigid in threshing, we



The Gaar-Scott Tiger Thresher

With Gearless Stacker, Self-Feeder and No. 1 Weigher

The other side of this Thresher is shown on page 3

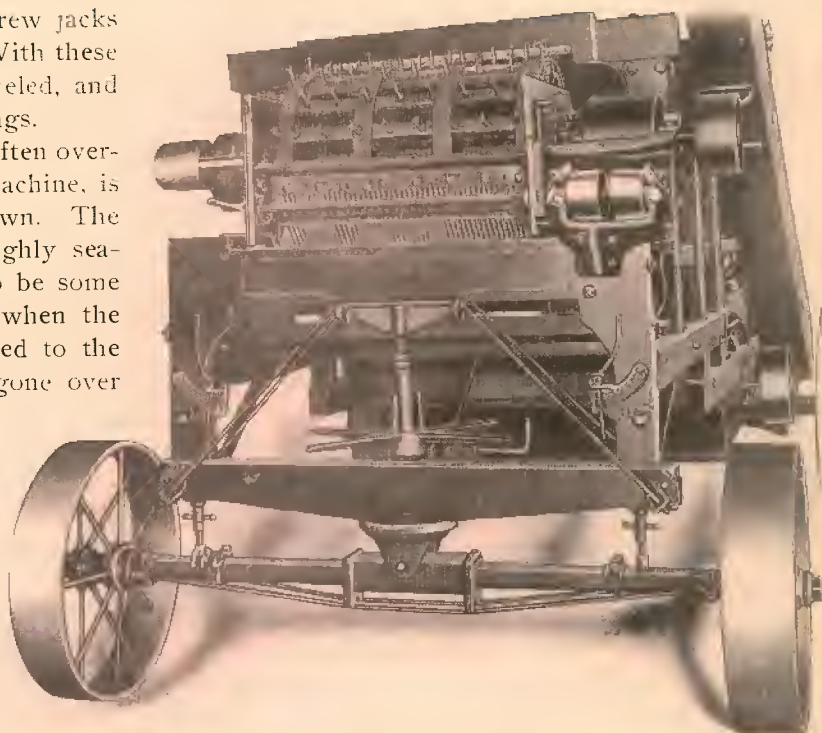
SEVENTY-FOUR-YEAR QUALITY

send along with each machine a pair of screw jacks to set under each end of the front bolster. With these the front end of the thresher is quickly leveled, and the cylinder balanced to run free in its bearings.

Caution: An important matter which is often overlooked by threshermen in starting a new machine, is keeping the bolts in the frame tightly drawn. The lumber used in our threshers is all thoroughly seasoned and kiln dried, but there is bound to be some shrinkage and working loose of the bolts when the machine is first put in the field and exposed to the hot winds and sun. All bolts should be gone over carefully several times and tightened. A little looseness in any of the joints of the frame soon causes wear in all of them.

Indestructible Steel Wheels and Axles

THE modern grain separator with its several indispensable attachments, needs something stronger to support it than any wood axle can be made, because the outfit has to travel over rough roads and soft ground, often under the worst possible conditions. The great strength of our heavy steel axles, supported by double truss rods as shown in the illustrations, makes them strong enough to support twice the weight they have to carry. There is no sag, warp, shrinkage or cracking of these steel axles, either or all of which forms of deterioration you can expect in wood axles. The wheels, too, are steel with wide hubs and tires, varying from four to ten inches in the different sizes of our threshers. The



Open Front View of Gaar-Scott Thresher with Cylinder Cap Removed.
Showing front trussing, leveling screw jacks, new belt guide, etc.

hubs have oil tubes for oiling so that dirt can not work into the axle bearings, and the trucks are light running.

With 36-inch cylinder and larger threshers we furnish free an extra heavy tongue. A regular tongue goes with smaller threshers, and doubletrees and neck-yoke only when ordered.



The No-Break, No-Warp Steel Axles that carry the No-Shake, No-Sag Frame.

Lower cut shows rear side of front axle. See front side on open front view of Thresher.



A Look at the Gaar-Scott Tiger's Threshing Parts

So much for the general design and the outside structure of the Gaar-Scott Thresher. Let us examine its internal parts and study the mechanical principles on which they operate to perform the work of threshing, separating and cleaning—the greatest economy ever effected by the use of machinery in any agricultural operation.

You know what work the threshing parts—cylinder, concaves and grates—should do to be thoroughly efficient, please the farmer by close threshing, and insure the permanency of your run as well as your earnings. This means that there must be no grains left in the heads to be threshed out by the fan of the blower and show up in the straw stack. The threshing parts must admit of the nicest adjustment to do their work perfectly under all conceivable threshing conditions and in the various kinds of grains and seeds. The largest number of threshers that meet all these conditions every year, you will find are the Gaar-Scott and just why this is so will be well worth a look into its threshing parts.

The Large 16-bar Reversible Cylinder

THE big cylinder has so thoroughly proved itself indispensable to the cleanest and most economical threshing, that it seems useless to attempt to argue its superiority. Every thresherman who has reported to us his success with the Gaar-Scott big cylinder has agreed on at least one thing, and that is that he could never be induced to run a small-cylinder thresher again. Of the several advantages gained by it, one, especially worthy of notice, is increased thresh and greater separation on the extended grate surface.

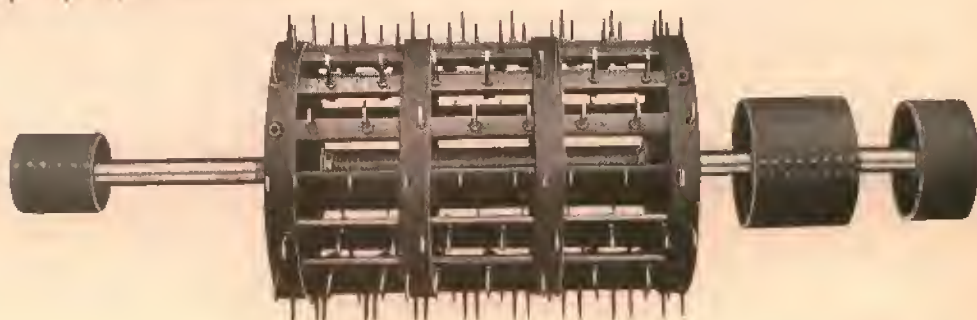
Some builders of small-cylinder separators have availed themselves of more grate surface but found that the small sweep of their diminutive cylinders

would not clear the grates of the straw, and were obliged to add some sort of a device to move the straw backward over the grates by shaking, forking, etc. These attachments give just so many more wearing parts that take repairs and increased power, do not increase the thresh, and consequently the capacity of the thresher, which the large cylinder does, nor the separation on the grates. Any one who has run the large-cylinder Gaar-Scott Thresher knows that the large cylinder keeps the straw moving over the grates lively enough without any auxiliary device, and that but a small portion of the grain is left in the straw after it leaves the grates.



12-bar cylinder.
1,200 revolutions.
8-inch and 9-inch drive pulley.

The Correct Proportion
Cylinder.
16 double bars.
900 revolutions.
Diameter 30 inches
10½ inch and 12 inch
drive pulley



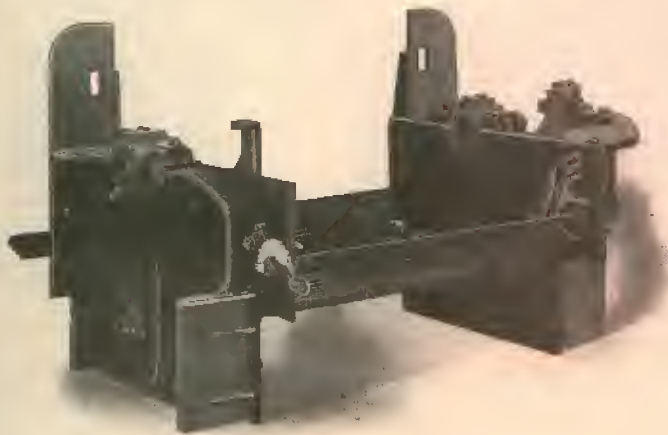
SEVENTY-FOUR-YEAR QUALITY

The momentum of the heavy cylinder overcomes slugging the cylinder or checking the speed through irregular or overfeeding of heavy, damp straw. This large cylinder is the drive or balance wheel of the thresher and imparts to all the rear parts belted from the larger pulleys on the cylinder shaft, a strong, steady motion, and the working efficiency of these parts is increased, while the speed and friction are reduced, with a considerable saving in power and fuel.

The cylinder is adjustable endwise, should any regulation be necessary, as it is important to have its teeth strike centrally of the concave teeth. It can also be reversed to make use of both edges of the double-edged tooth. To give our separators the proper speed, when run by any of our coal and wood-burning engines, the 12-bar cylinder separator should have an 8-inch diameter drive pulley on the cylinder shaft, and the large 16-bar cylinder a 10½-inch drive pulley. When run by any of our Universal-boiler engines, the 12-bar cylinder requires a 9-inch diameter drive pulley, and the large 16-bar cylinder a 12-inch drive pulley.

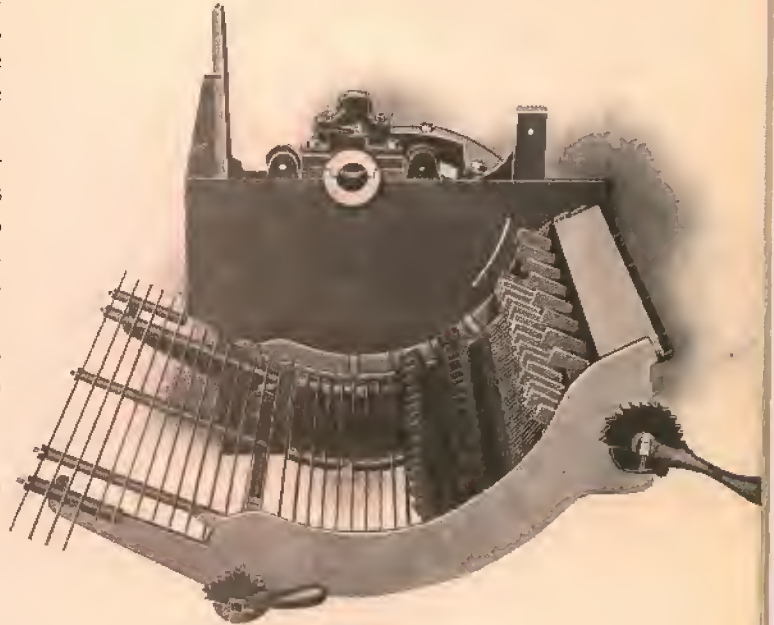
The Cylinder Shaft and Bearings

ONLY the best high-carboned machinery steel is used in our cylinder shafts. The shaft in the 33-inch cylinder is 2¼ inches in diameter. Wider cylinders have 2½-inch shafts.



The Iron Sides and Cylinder Journals.

The outside bearing bracket is strong and supports the drive end of the cylinder shaft in a way that eliminates all strain of the drive belt which runs inside of the bracket and is easily put on or taken off. There



Illustrating Concave and Grate Adjuster, and Large Grate Surface.

is a large main box to the inside of the drive pulley and another on the bracket between the drive pulley and the outside pulley. These boxes and the main box at the other end of the shaft are well babbitted with genuine hard babbitt metal and are easily adjusted. Oilers are supplied so that the shaft has perfect lubrication and runs with little friction and without danger of being sprung.

Cylinder Tests

OUR thresher cylinders are carefully balanced and "trued up" in a lathe after being filled and are given a high speed test after they are set in the journals of the thresher.

The Iron Sides

NEXT in importance to a large, well-balanced cylinder with perfect bearings, are rigid sides to insure perfect alignment of the cylinder shaft and a

THE GAAR-SCOTT "TIGER LINE"

fixed position for all parts. This is essential to the smooth running of the thresher without undue friction or waste of power, and is permanently secured in the Gaar-Scott Thresher by the use of strong iron sides. The wide flanges are bolted to the cylinder posts in a way that stiffens and strengthens the entire frame at both sides of the cylinder. These are strong enough to keep the front frame in square in the roughest travel, and the small screw jacks between the outer ends of the front bolster and axle, accomplish this when the machine is "set" for threshing.

The Concaves and their Adjustment

NO MORE perfect adjustment of concaves and grates to the cylinder is possible than is given by our concave adjuster. The ratchet levers—one opposite the front concave, and the other midway of the grates (see illustration) regulate this adjustment to suit the different kinds and conditions of grains and seeds threshed, without stopping the machine. The front and rear of the concaves and grates may be raised and lowered independently of each other or together. Without this nice adjustment clean threshing is impossible. Straw that is very dry and brittle and inclined to break up badly can thus be given more space by letting the concave down. In other conditions and with some kinds of stock there should barely be clearance below the teeth of the cylinder so as to avoid straw and whole heads passing through without being acted upon.

The Reversible Tiger Teeth

THESE teeth have double blades or two threshing edges so that when the teeth have done service equal to the best of old style teeth, reversing gives practically a new set. This cylinder tooth is our own patent and is used only in our threshers.

The illustration shows the way it sets in the heavy double bars quartering to the bar, so that it can not

turn, and the spring lock washer shown in the illustration of both the cylinder and concave tooth, holds the teeth firmly when the nut is drawn, so that there is no possibility of their getting loose. These teeth are made extra heavy, of special stock and tempered to a uniform hardness, which makes them wear-resisting.



The Gaar-Scott Patented "Tiger" Teeth.
Double-Blade Reversible Cylinder Tooth and Single-Blade
Concave Tooth.

Rebuilt Threshers and Engines

We sometimes have rebuilt and second-hand threshers and engines at the factory and our branch houses. A list of what we have will be gladly furnished on application. Most of the machinery that has been well cared for and shows little deterioration we rebuild thoroughly and put in condition for good, long service. At the reduced price asked for it, it can be made to yield good earnings on the investment.



A Look at the Separating Parts of the "Tiger"

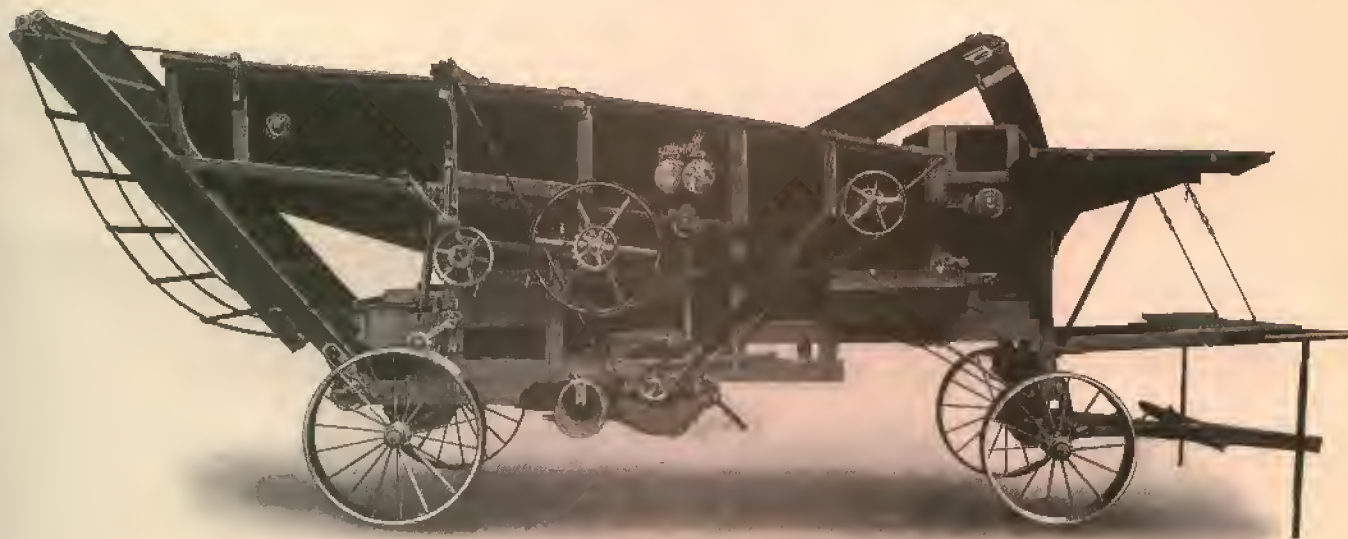
The separating mechanism has never been invented and never will be that will get every grain out of the straw. The highest types of threshers will always show their greatest economy in the saving of time, against which the waste of the most wasteful machine made is a mere bagatelle. But your customers have a right to demand the last grain or seed that can be gotten out of the straw by separating devices that have reached the highest development.

Our three-way-crank separating mechanism is one of the most superb features of our thresher. It is simple and entirely free from fingers, forks, pickers or kickers on which straw so easily bunches and wraps in other threshers. This freedom from mechanical complications gives our thresher its great superiority as a flax and timothy thresher and enables us to thresh right along, without loss of time, in long, damp straw, when other threshers are "under the weather."

The Grates and their Large Separating Surface

WE PLACE an iron intermediate grate between the front and rear concave so that the grain or seed that has been threshed out upon the front concave can be at once separated from the straw by dropping through this grate instead of being carried to the rear concave where it is likely to be broken and furnish an obstruction to the clean threshing on the rear concave. Notice the long sweep of grates back of the

concaves. As we have seen before, these may be adjusted so that the passing of straw of different kinds under varying conditions may sweep the grates cleanly and flying kernels of grain pass through the grates, unimpeded. With the proper adjustment of the grates, the first step in the unequalled separation in the Gaar-Scott Thresher is taken and approximately 90 per cent. of the grain or seed has been removed before the straw goes onto the straw racks.



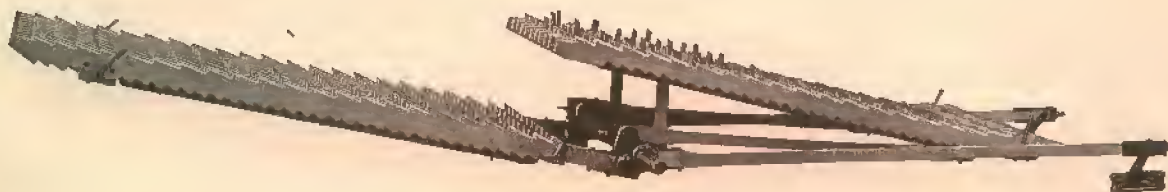
Left-hand Side of Large-Cylinder Gaar-Scott Tiger Thresher

With Common Stacker and Hand-Feed Attachments

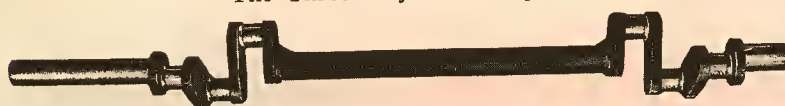
THE GAAR-SCOTT "TIGER LINE"

The Beater

THE straw passing over the rear grates is flattened down and given an impetus backward upon the straw racks in a thin, even layer by means of a four-winged beater running under. The wings are covered with iron and their arrangement overcomes the ten-



The Three-Way-Crank Separating Mechanism and Straw Racks.



The Three-Way-Crank Shaft.

dency of the straw to wrap and at the same time prevents any back-lashing or wrapping of the straw on the cylinder in long or damp straw. This beater receives the main dash of the grain coming from the cylinder and turns it down promptly through the straw racks and onto the grain-pan. The quick strokes of the rapidly revolving wings also dislodge loose grain from the heads and straw and in this way assist in the separation.

The Check Board or Apron

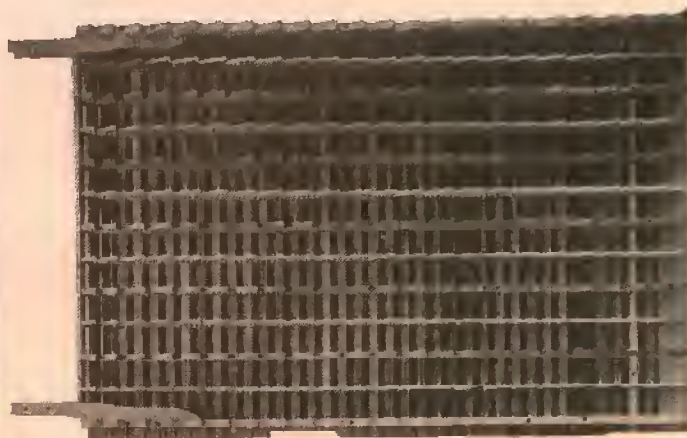
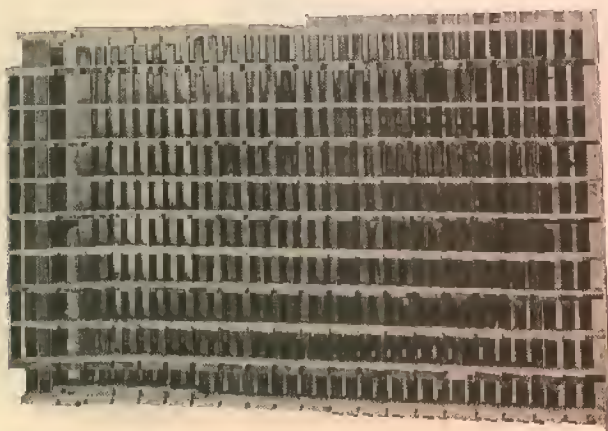
SUSPENDED from the roof of the thresher, directly back of the beater is an over-hanging check board which checks any flying grain from the beater and prevents this being carried farther back on the racks, so that separation may take place on the racks

This Pitman arm and one opposite, attach to and shake the grain bottom.

as early as possible. It further assists in compressing the straw to a uniform layer so that there may be no wasting of the grain upon the racks from bunching of straw.

The Three-Way-Crank Shaft

AN UNDERSTANDING of the perfect separation on the straw racks will be made clearer by first considering the driving mechanism of the racks. In illustrations of the left-hand side of the thresher about



The Two Straw Racks, Showing the Large Separating Surface over which the Straw is Shaken.
The Top Toothed Edge of Every Other Fishback is Metal Covered.

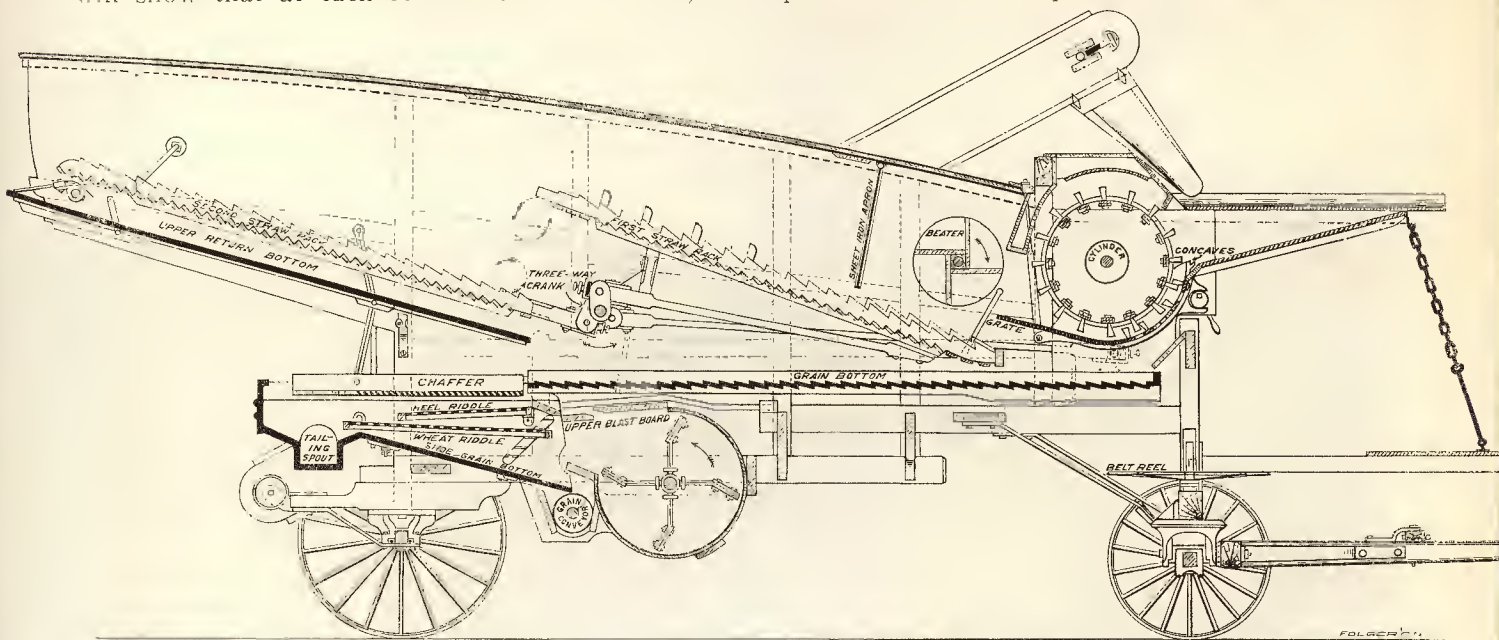
SEVENTY-FOUR-YEAR QUALITY

midway of the straw racks will be seen a large pulley driven by a belt from the cylinder shaft. This is the 30-inch pulley that drives the three-way-crank shaft and through this shaft, the first and second straw racks and the pitman that shakes the grain pan, each of these parts being attached to one of the three cranks at both ends of the crank shaft. These three pairs of cranks counterbalance each other perfectly so that they have a quiet, light-running, smooth, round-crank motion; in fact, the jar or vibration is so light in our thresher that when the shafts are properly lined, a glass of water set on the sill of the thresher will not spatter a drop in a whole day's run.

Our Three-Way-Crank Separation

NOW let us see what effect the revolutions of this three-way-crank have upon the straw racks. Reference to the cross-section illustration of our thresher will show that at each revolution of the shaft, the

adjacent ends of the two racks approach each other. At the opposite throw of the cranks, they separate by a space of 11 inches, and the straw in passing over the top of the first rack onto the second rack has a fall of 15 inches. This gives twice the throw of eccentric or any other separating devices, and the upward and backward movement of the racks keeps the straw moving just fast enough for the cleanest separation. The upward throw of the racks tosses the straw upward and backward and its impact with the succeeding upward stroke of the rack agitates the straw so thoroughly that practically the last kernel is shaken out of it before it goes over the end of the first rack, and is to be further agitated the length of the second rack. The racks are so wide in proportion to the cylinder in every size of our threshers that it is impossible to load them to the point of wasting grain in the fastest threshing. The rack frames and pitmans are hard maple, and built strong.



A Look at the Insides of the Tiger Thresher

Without Self-Feeder and Straw Stacker.

Notice particularly the splendid Three-Way-Crank Separating Mechanism, the long Straw Racks, and the abundant straw space. Also the unique arrangement of the Side-Shake Shoe with cleaning riddle in combination with the End-Shake Chaffer.



A Look at the Cleaning Parts of the Tiger Thresher

Next in importance to saving the grain, is cleaning it ready for market or so free from weed or other foreign seeds that it is ready to go to the seeding machine without going through the fanning mill. Our cleaning mill is unique, and a comparison of the milled product from a Gaar-Scott Thresher with that of other machines will convince you that there is no better cleaner. If you read "Tiger Truths" you will see numerous letters from threshermen telling how much more the grain buyer at the elevator pays the farmer for grain threshed in a Gaar-Scott Thresher. This experience is quite general where the grain buyer appreciates thoroughly cleaned grain and gives the farmer the market price for such grain.

The Fan and Blast Boards

WE USE a strong, large-diameter fan, carefully housed, that gives a full blast the entire width of the shoe and chaffer without the necessity of giving the fan a high speed and creating such a high-speed blast as to overcome the gravity of the falling grain or carry it farther back on the riddles. In our 36-inch cylinder and larger threshers, we use a double fan, the two fans running end to end, which gives a slow blast delivered with strong force demanded in these large size machines. The fan runs overblast and by means of the two blast boards, you can direct the blast just where you want it. The upper blast board regulates the blast above and between the sieves and blows out much of the chaff without its going onto the sieves. The lower blast board directs the blast

up through the sieves at any point desired, sweeping the grain-bottom of the shoe, and cleaning the grain of sand, dirt, white-caps, etc.

The Chaffer and Grain-Pan

THESE have the end-shake motion with considerable uplift on the chaffer which keeps the grain moving freely over the grain-pan so that the chaffer never becomes heavily loaded to the point of carrying grain back to the tailings elevator. The chaffer and shoe are mounted in separate frames and their motion is entirely independent. This is done in order to give the chaffer the more violent and positive motion needed to do its work and remove the large quantities of chaff, straw, sticks, etc. The speed at which the grain-pan and chaffer should travel is 210 strokes a minute, and the operator should determine



The Grain-Pan, the Zinc Chaffer used in all but Headed Grain and Rice Threshers, and the Holey-Board Chaffer.

These Parts have an end-shake motion.

SEVENTY-FOUR-YEAR QUALITY

that they have the right speed by putting his hand on the grain-pan or shoe occasionally and time the motion. When this speed is right, you will know that the cylinder has the right speed, or 900 revolutions of the 16-bar cylinder.

The Shoe and Cleaning Riddles

THE chaffer having an end-shake motion and the shoe and cleaning riddles a side-shake motion—two independent motions, each suited to the particular work the riddles have to perform—is a splendid feature of the Gaar-Scott Thresher peculiar to it only. This makes the machine easily the closest saver and best cleaner on the riddles, as we have demonstrated for many years in numerous tests. With this combination we clean the grain in the most perfect manner, and, when feeding fast from both sides, there is absolutely no choking or clogging of the riddles, and no grain blown over. The wheat riddle never becomes stuck full of wheat heads or short straw, and can be run all day without taking it out to clean.

The slight side-shake given to the cleaning riddle causes the grain to pass quickly through the riddle, and prevents its being carried to the tailing-spout, or from being blown over with the chaff. It is also the best possible motion to work cheat through the cheat screen.

The Grain Conveyor

A GRAIN auger carries the grain through the conveyor and the spout. This is the most approved device in use, as no matter how damp the grain, or how fast the threshing, the grain is delivered at the spout with unfailing regularity in a constant steady stream without any danger of choking. The belt that drives the grain auger from the beater shaft, is run open and crossed to deliver the grain to one or the other side of the thresher. This is the work of only a minute, and is the only change needed. Please notice this belt running open on thresher illustration below.

For further consideration of the grain delivery members, see chapter on Weighers and Baggers.



Right-hand Side of Large-Cylinder Gaar-Scott Tiger Thresher

With Common Stacker and Hand-Feed Attachments



A Look at the "Tiger's" Finishing Touches and Minor Conveniences

A few dollars saved to the manufacturer in the outfitting of a thresher, may mean many dollars of actual loss, during a single season, in time consumed in its handling and adjustment.

We never lose sight of the fact that Gaar-Scott Threshers have to pay for themselves and leave a profit to the owner that will make his work worth while. So we are not sparing of expense in outfitting our threshers with all attachments needed to make them economically and easily handled with little care and adjustment. Their operation is a genuine pleasure to the man who makes threshing a business and takes pride in his work.

The oilers are selected with special care. The tool box and belt reel are handy. All pulleys are wide, covered with leather, give firm contact and avoid slipping of belts; and every needful attachment is furnished to prevent unnecessary wear on belts or the burning of new belts. We have not the space to enumerate all these features, but call your attention to a few of them

The Three-Way-Crank Belt Tightener

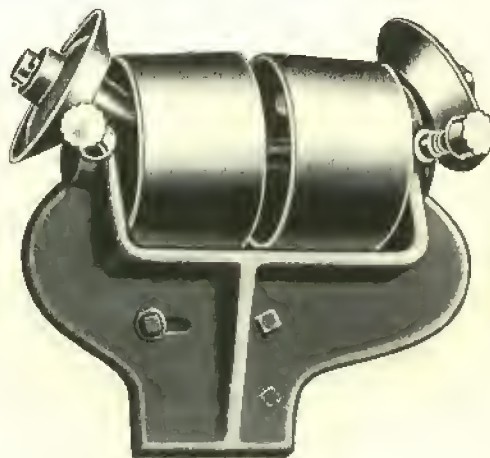
A LEVER conveniently placed at the side of the thresher, at hand height, draws this tightener down on the three-way-crank belt. When drawn down against the belt or when the belt is released, this tightener is secured by a hand bolt. This attachment is a safe guarantee against slipping of the belt or burning out new belts and assists in giving positive and regular power to the large three-way-crank shaft pulley and the whole separating mechanism.

A Minor Part but a Good One

OUR present style of belt guide is one of the late improvements to our thresher. It is a great convenience and a belt saver; does not wear, fray or turn up the edges of the belt and requires no adjustment to keep the belt centered on the drive pulley. The only attention it needs is to keep the soft oilers on the pulley filled.

Fewer Belts to Buy and Keep in Order

ONLY four belts are used on the Gaar-Scott Thresher proper. One of these belts runs from the pulley on the outer end of the cylinder shaft by the side of the drive pulley, to a pulley on the fan shaft. This belt is 4 inches wide on our threshers under 36-inch cylinder, and 4½ inches wide on 36-inch cylinder and larger machines.



The Drive Belt Guide.

The other belt on this (elevator) side runs from the beater to the grain conveyor.

On the other side of the thresher, a belt connects a pulley on the cylinder shaft to the large 30-inch pulley on the three-way-crank shaft. This belt is 4½ inches wide on the smaller threshers and 6 inches on the larger threshers.

These are the belts that drive the rear working parts of the machine back of the cylinder—the separator and cleaning mill—and you will notice that in the smaller machines they give 8½ inches width of belt and in the larger machines 10½ inches width of belt to perform this work.

The fourth belt drives the beater from a pulley at the other end of the fan shaft.

These belts, which we furnish free, are the best oak-tanned heavy leather and can be taken off without unlacing.

SEVENTY-FOUR-YEAR QUALITY

Main drive belts are extra and furnished as ordered, either stitched canvas or rubber.

Brake or rub-lock is furnished only when ordered, and an extra charge is made for it.

If spliced or slip tongue is wanted instead of straight tongue, it must be specified in the order. The regular tongue for 36-inch cylinder and larger threshers is extra heavy.

We furnish free with each machine in addition to the above extras, the necessary wheat, oats, cheat and barley riddles; one two-row concave filled, extra cylinder and concave teeth, extra sprocket chain links, a full complement of oilers, oil can, monkey wrench and other necessary wrenches.

Thresher Tests and Finish

TO INSURE our threshers' leaving the factory in the best possible condition—after they are fitted up, complete, all the journals are well oiled and the machine is then belted up and run under belt power, to see that every part is adjusted and put in proper shape for operation in the field. This is all done before the machine goes to the paint shop. Then it is painted, and ready for the "Tiger" brand, and no further work is done to it to mar or disfigure the paint. The finished thresher presents a handsome and pleasing appearance—nice enough for the most fastidious and good enough for the most particular operator.



A Look at the Gaar-Scott Special Rice Thresher

May be Had in Our Complete Rice Thresher Catalog

Mailed on request

The manufacture of rice threshing machinery is so much a specialty with us and so large a part of our business that we treat of this class of machinery in a separate catalog. We have space here to merely call your attention to this special printed matter, if you are interested, and to our two branch houses in the coastal rice belt, where you can see all the "stripes" on the rice-threshing "Tiger." These are two of the largest threshing machinery warehouses in the rice belt, and a full line of our traction and portable engines, threshers and saw mills, suitable for the rice country, is open to your inspection and subject to your rush orders.

Our Nashville, Tennessee, branch house takes care of the trade in the fast developing rice territory in Arkansas.

Sizes of Large-Cylinder Rice Threshers

WE BUILD three sizes of rice threshers—28, 31 and 33-inch cylinder—all cylinders now built regularly with 16 bars instead of 12 bars as formerly, increasing the diameter of the cylinder to 30 inches. Our tests of these large-cylinder threshers, during the past few years, have demonstrated that the 16-bar cylinder has all the advantages in threshing rice that it has in other grains and is undeniably the correct proportion cylinder for the most successful and economical working of all parts of the thresher.

Our Special Rice Self-Feeder

PARTICULAR features of this self-feeder merit a careful description which we give in our rice

thresher circulars. We mention this feeder here merely to emphasize that our rice threshers and attachments are built especially for rice threshing, so that they overcome all the difficulties which the peculiar nature of rice straw and rice berries in either the Japan, Honduras or golden varieties of rice present in normal seasons, as well as in seasons of extreme humidity or drouth. The best concise recommendation for the Gaar-Scott Rice Self-Feeder is that it is the only feeder in the rice belt that operates so uniformly well under all conditions that it is an indispensable fixture on the thresher from first to last and never gives way to hand feeding. Other parts and attachments have received equal care in adapting them to rice threshing.



A Well-Balanced Outfit.

Y

OU have heard the saying about a man's income being like his shoes, because when they are too small they pinch him, and when they are too large they cause him to stumble. Sometimes threshermen realize too late that they got a bad fit in a threshing outfit—maybe the whole rig or just one end of it. When they get too small an engine they get pinched in the capacity of their threshers and their earnings, too. Of course, surplus power is always desirable and it is better to err in favor of the engine, but actual horse power costs money, and if this power is largely in excess of what is used, there is an outlay of that much capacity which is lying idle and that much investment that is not earning a profit.

A small busy outfit is better than a large idle one, and the outfit that is just large enough to take care of its run, is the one that will pay for itself quickest and earn the largest profit on the investment.

Our travelers are instructed to make the buyers' interest theirs and see that orders call for practical, well-balanced, money-making outfits, because it is the many successes of the threshermen that combine to make our success, and upon them the continuance of our business depends. We advise:

13 h. p. coal and wood-burner with 31 x 49 separator.

16 h. p. coal and wood-burner or 16 h. p. universal-boiler engine with 33 x 52 separator.

18 h. p. coal and wood-burner or 18 h. p. universal-boiler engine, single or double cylinder with 36 x 56 or 36 x 60 separator

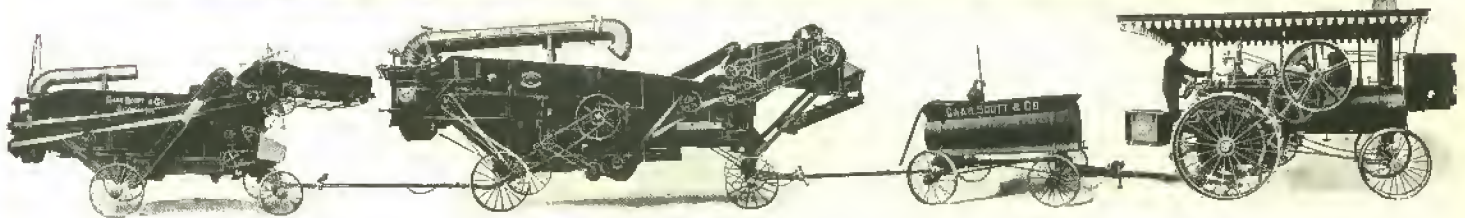
22 h. p. coal and wood-burner or 22 h. p. universal-boiler engine, single or double cylinder, with 36 x 60 or 40 x 64 separator.

25 h. p. universal-boiler engine, single or double cylinder, with 40 x 64 or 44 x 68 separator.

30 h. p. compound-cylinder or 32 h. p. single-cylinder universal-boiler engine with 40 x 64 or 44 x 68 separator. These sizes of engines are used where an abundance of excess or emergency power is desired, either for running the largest outfits with all attachments to full capacity or for heavy traction work.

Separators in above combinations may be fitted complete with all modern attachments, namely: Gaar-Scott Wind Straw Stacker or attached raddle stacker, self-feeder and a bucket weigher or bagger.

"The Tiger Thresher Line"





The Gaar-Scott Gearless Stacker

A FIT TAIL-PIECE TO THE THRESHING TIGER

It Wags Quietly, Steadily, Smoothly, with the Nicest Accuracy,
and Stacks the Most Straw with the Least Power



GEARLESS wind straw stackers, while not heretofore cataloged by us, have received our close attention, and where desired have been furnished by us for the past five or six years—every one of our own manufacture. The increased popularity of these stackers, the way we build them, particularly on account of their simplicity and light running, has induced us to make them our leaders in the future. Our present greatly improved model is far beyond the experimental stage, and has our unqualified recommendation as a success without an equal. Everywhere they have been used the reports from the field may be summed up in two words—complete satisfaction.

The fact that ninety-six per cent. of all the threshers we build leave our factory with our own make of wind-stackers attached, is pretty good evidence that we build good stackers, especially when you stop to think of the numerous different makes of wind straw-stackers built by manufacturers who make a specialty of them, and the fortunes these manufacturers spend every year in creating a demand for their stackers.

One Rig—One Warranty



WHEN you buy a Gaar-Scott thresher and blower you buy one machine built all together, every part made in our own factory and under our own superintendence. You can hardly appreciate what this means in satisfaction to the thresherman and the successful operation of the machine, unless you have bought a thresher with a wind-stacker that has been

hung onto it after the machine is finished, and which is nearly always foreign in design and construction to the original plan of the thresher. The weight seems to drag where you don't want it, it looks clumsy, and is too often just as awkward and unsatisfactory in operation. Building everything in our own factory puts us in position to give you a single warranty that means something, and covers the whole rig. This gives the buyer a feeling of security that assembled threshers and attachments each from different factories and warranted separately could not possibly give him.

The Lightest Running Stacker

THE fewest parts and the plainest belting make the Gaar-Scott Gearless an extremely light running stacker. The fan and drive pulley are on the same horizontal shaft which runs in a large double box, fitted with hard oilers. The oscillating device that swings the stacker is belted to a pulley on the same shaft. Please notice in the illustrations how securely this journal is braced.

The Belting and Belt Guide

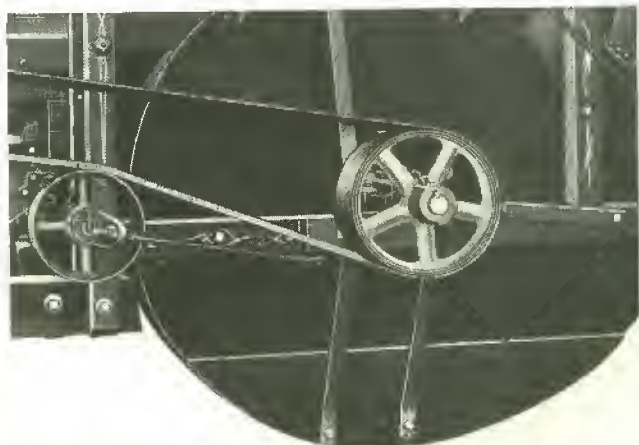
A STRAIGHT open belt from a pulley on the threshing cylinder shaft transmits the power to the blower. A very ingenious belt guide holds the belt down to business so that there is no slipping of the belt or checking the speed and no danger of the stacker being choked.

The illustration shows the nice adjustment of this guide. It keeps the belt centered on the pulleys without the aid of any flanges, which are very wasteful of good belt leather.

THE GAAR-SCOTT "TIGER LINE"

The Fan and Hopper

LIGHT draft and strong blast is the happy combination for which builders of wind-stackers strive. The complete satisfaction given by this Gearless blower, from the largest to the smallest sizes, in all



The Fan Drum, Drive Pulley and Adjustable Belt Guide.

sections of the country, in different kinds of grain and seed stock, handling long and damp straw as well as short and dry, furnishes indisputable evidence of our solution of this difficult problem. Our fan has four blades made of flange boiler steel—just heavy enough to run light and handle, without strain, all the straw that can be put through the machine. The fan running upright and well balanced on the shaft, runs light and creates a **powerful blast** which carries the straw through and out of the chute at a high velocity, and takes care of all the dust and chaff from the separator. The chaff and straw fall into a funnel-shaped metal-lined hopper that merges with a steep slant toward the eye of the fan so that they are fed into the fan by gravity and the suction of the fan without the assistance of any other auxiliary device.

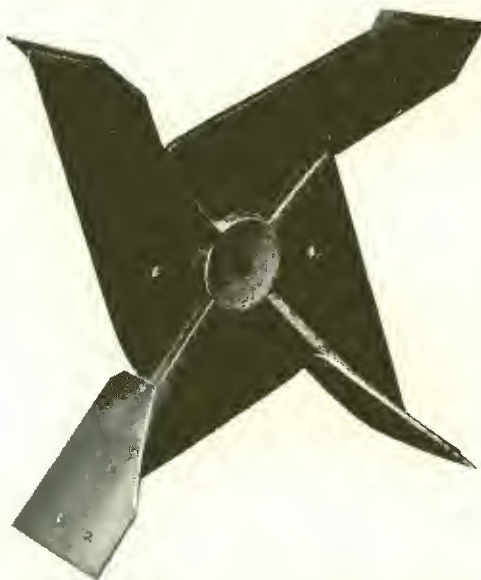
The Automatic Oscillating Device

SWINGING the chute freely from any part of, to a complete circle, the automatic oscillator does its part toward making a perfect stack, and is regular and positive in its action. It can be worked by hand when desired. The turn-table rotates on ball bearings, and

very little power is needed to swing it. The worm gear is protected from dust and chaff by a rubber packing ring at the elbow joint of the chute. This also prevents dust and chaff from blowing back.

The Chute and the Way it is Set

BY MEANS of a crank wheel and sprocket chain the chute is easily extended or telescoped from the foot-board. As the chute is extended, a ratchet wheel and pawl are always in position to keep the upper tube from working back. The operator can start his stack just where he wants it and build it as large and compact as the "setting" requires. It is especially useful in barn threshing as there are no braces or guy ropes in the way. The chute is made of galvanized iron to avoid rusting, of sufficiently heavy gauge to be strong and rigid and not add unnecessary weight.



Fan of the Gaar-Scott Gearless Stacker.

Our Flexible Hood

THIS multiple-jointed extension of the chute admits of the most perfect manipulation, as the hood will describe a complete circle and the elbow may be set at any angle with the chute. This adjustment is made by the use of a quadrant and ratchet lever which sets the hood and holds it securely in any desired po-

SEVENTY-FOUR-YEAR QUALITY

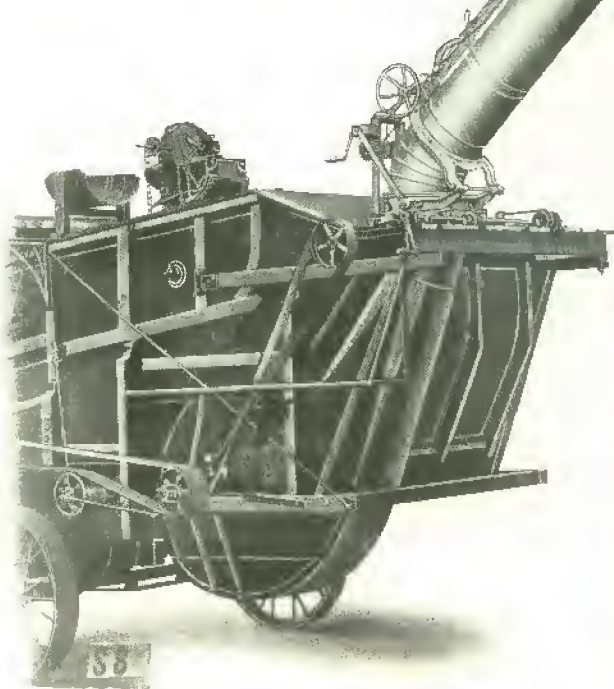
tion The hood is closed around its entire circumference and there is no scattering of the straw, as with open hoods that are merely deflectors of the straw.

Needs Little Attention

WHEN SET this stacker in a strong frame built in with the thrasher and thoroughly trussed to it. Its weight nicely counter-balances the weight of the weigher on the opposite side so that there is no undue strain or twist on the frame of the thrasher. It is one of the lightest stackers made, but there is no sacrifice of strength or durability.

The working parts are all in convenient reach of the operator while standing on the platform, and from this position he commands a good view of the stack. We want to emphasize, however, that the extreme simplicity of this stacker

makes it almost self-operating. It needs very little attention to make good stacks, and the little it does need can be given it by the most inexperienced operator about the machine.



The Gaar-Scott Gearless Straw Stacker

Showing Chute Raised and Outer Tube Extended
in Stacking Position



A Straw Stacker in the Orient.



The Gaar-Scott "Tiger" Self-Feeder

It feeds evenly, runs light at perfectly-governed speed,
feeds anything you want to thresh, increases
the thresher's capacity, and improves
its threshing qualities



IF IT had been possible to find a single fault with our chain-rake self-feeder as we have built it for the past three years, that fault probably would have been in the wear on the carrier chain. The chain we will use on our self-feeder this year is built to overcome all risk of wear and tear, and there is no danger of its breaking from this cause.

To satisfy ourselves on this point beyond the shadow of a doubt, we set up a self-feeder and run it under full threshing speed ten hours a day for three solid months without impairing the chain in the least or producing any noticeable wear in any other part of the self-feeder. The accompanying illustration shows this self-feeder test. It also shows how we put the necessary test pressure on the carrier by clamping it down under strong spiral springs, putting a weight on the carrier of twice what it would ever carry in grain or seed stock.

A Strong Carrier that Won't Wear Out



THE two carrier slats with sprocket chains attached, being a section of the slat carrier which we illustrate here, shows the heavy iron slat bearings at each end of the slats. These are bolted with the corresponding links onto the slats and on these bearings the carrier rides, traveling on quarter-inch thick wrought iron tracks at each side of the feeder floor.

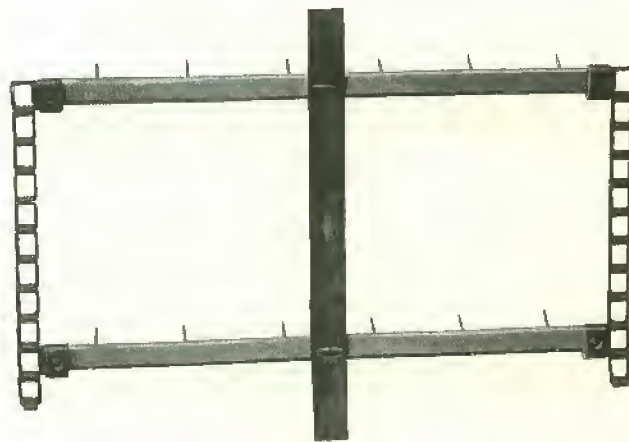
These raise the slats clear of the feeder floor and cause the carrier to run smooth and light, so light that the power required to run the self-feeder, as shown by our tests, has been considerably reduced, and is less than required to run any other self-feeder of which we know.

As a further precaution against the chain coming apart through any accident to the carrier chains, you will notice we have a strong center belt bolted to each slat with bolts that have a large oblong head.

Our sprocket chain adjustment gives the operator complete control over the slack in the chain, and when properly adjusted, the slats can not turn backward and

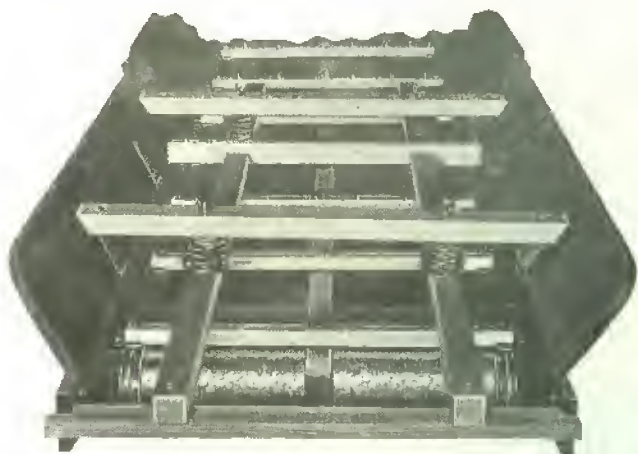
scrape the feeder floor with their spikes, which is an objectionable feature in some slat carriers.

In this carrier we use steel chains, maple slats and steel spikes. The chain sprocket wheels are large and two of them at the center of the chains at each side take up the slack weight of the chain and cause the carrier to run very light.



Two Slats of the Feeder Carrier, Their Bearings, Steel Chains and Center Belt.

SEVENTY-FOUR-YEAR QUALITY



The Gaar-Scott Feeder Carrier in a Three Months' Test, Clamped Down Under Heavy Pressure.

The outer end of the floor is covered with galvanized iron and the outer end of the feeder is similarly protected, so that there is no danger of their being picked by the forks or the pitchers or of the forks being thrust into the floor and causing accidents.

The feeder is housed completely from the band cutter to the straw governor, and the gearing on the straw governor is also covered

No New Canvases to Buy

THRESHERMEN who have used both slat and canvas feeders freely acknowledge the superiority of the slat carrier, provided it is made right, so that it will wear as long as any other part of the feeder and overcome the little difficulties sometimes experienced with carriers that are not built with proper care. Any tests that you may apply to our present style self-feeder will prove to you that we have overcome every possible disadvantage, and aside from this, in operating one of our self-feeders, there is the satisfaction of knowing that there will not be any expense for replacing worn canvases, which it is absolutely impossible to avoid in canvas-carrier feeders, as every thresherman knows who has ever run one.

The Speed Governor

REGULATING the starting and stopping of the feeder carrier so that it will not carry stock to the cylinder until the speed is right, is done with ex-

treme precision by a regular ball governor on the end of the cylinder shaft. A set screw in the end of the hub regulates the tension of the speeder spring. Tightening this spring makes the governor let go at higher cylinder speed; loosening it, at lower cylinder speed. It is important to keep the governor well oiled on the rim of the friction pulley, where it comes in contact with the inner rim of the belt pulley and in the three oil holes back of the arms, which oil the hub.

The Straw Governor or Retarder

OTHER self-feeders depend entirely upon the spikes in the slats to hold back the stock and keep it from bunching into the cylinder. The rapid revolutions of the threshing cylinder draws the stock, especially the top layers, to the cylinder so freely that it



The Gaar-Scott Slat-Carrier Self-Feeder, with Outer Section Folded Under for Moving.

THE GAAR-SCOTT "TIGER LINE"

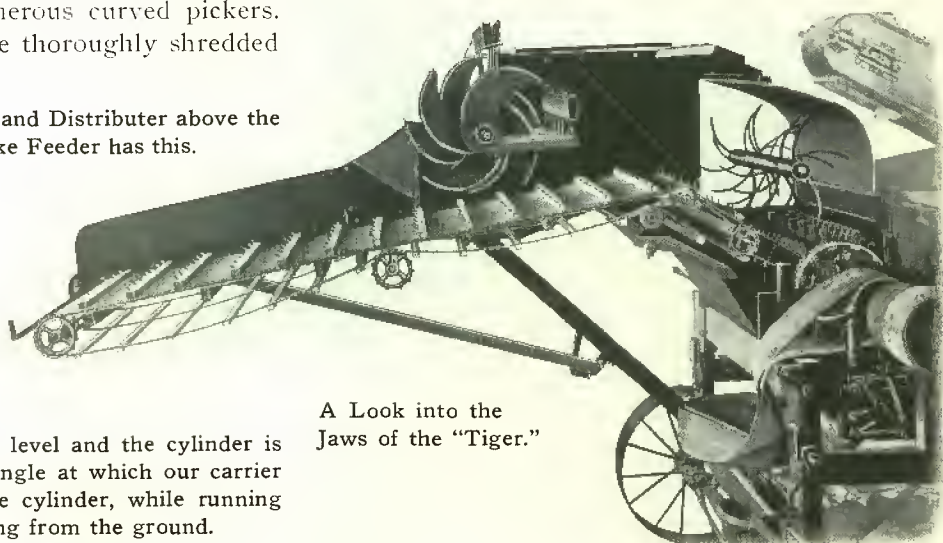
readily overloads itself and causes choking, bunching and consequently imperfect threshing. The Gaar-Scott Self-Feeder is the only one made of the slat-carrier pattern that overcomes this. It is done by placing an additional retarder just above the cylinder as shown in the sectional illustration. This retarder runs about twenty-five revolutions a minute and engages the top layers of the stock by its numerous curved pickers. All bunches or matted stock are thoroughly shredded

so that the cylinder receives the stock uniformly distributed its entire width and takes no more than it can thresh clean and well. This is the reason that the Gaar-Scott Self-Feeder is the only feeders that handle wet grain successfully, and it is largely through this perfect feeding that our separators thresh right along through damp weather when others have to lie idle.

Notice the Spiral-Toothed Retarder and Distributer above the cylinder. No other chain-rake Feeder has this.

No Wrapping.
No Choking.
No Slugging the Cylinder.
No Leaking of Grain.
No Littering of Straw.

Some feeder carriers run nearly level and the cylinder is sure to thresh badly. Notice the angle at which our carrier feeds, well up on the breast of the cylinder, while running low at the outer end for easy pitching from the ground.



A Look into the Jaws of the "Tiger."



Automatic Friction Speed Governor.

Band Cutter and Unbreakable Steel Knives

ROTARY Circular knives fitted on a square shaft with bushings between them, sever the bands as the sheaves pass under the band cutter drum. These knives revolve rapidly through steel guards so arranged that they prevent all possibility of wrapping.

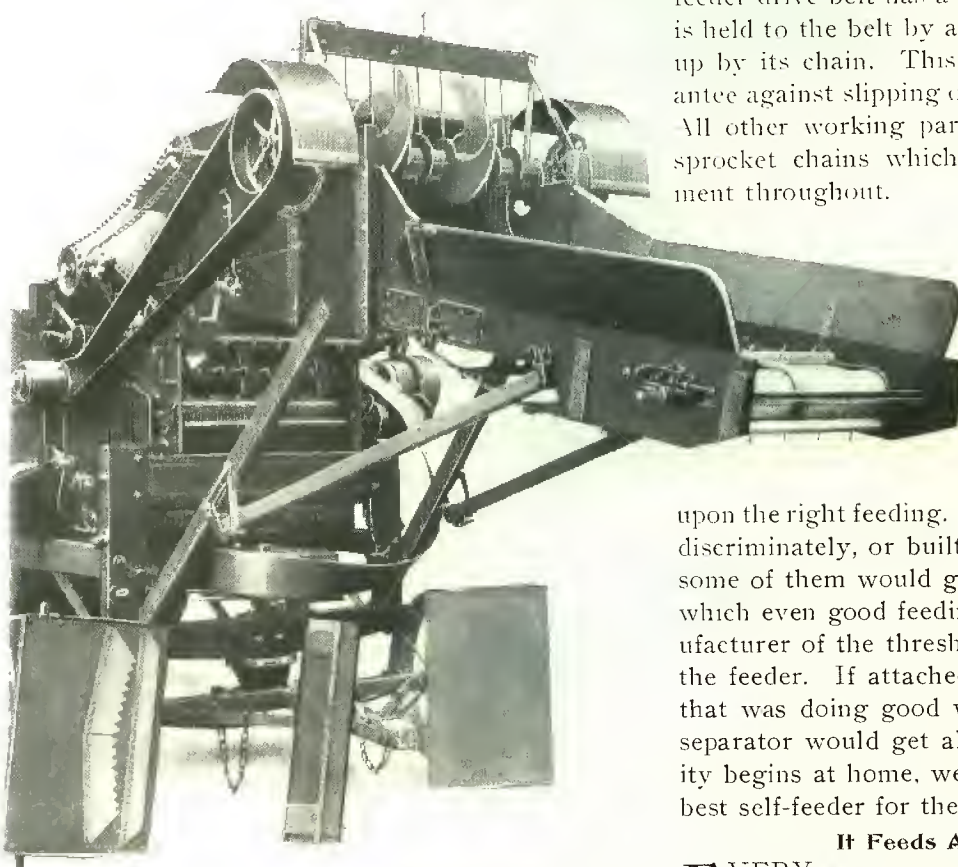
The cutting edges of these circular knife blades are serrated and the blades are made of fine saw steel tempered in oil and unbreakable. Everybody knows that a cutting blade will dull, and a serrated blade is no exception, though it retains an edge much longer than a smooth blade. It is therefore necessary to keep the band cutter knives sharpened. To make this the work of only a few minutes without removing the knives, we furnish, at small cost, a rotary emery knife grinder, illustrated herewith. It is quickly clamped onto the self-feeder and driven from the pulley on the cylinder shaft that drives the band cutter. The

SEVENTY-FOUR-YEAR QUALITY

knives should, of course, be ground on the smooth side. Directions are given in our "How to Operate."

The Shaking Grain Pan

BY THE oscillation of this pan, any shattered grain and scattering straw are carried to the cylinder, and leaking of grain or accumulation of litter under the feeder is avoided. We drive this grain pan by two bell cranks and eccentrics, one on each side of the feeder, which gives both sides of the pan the same even motion, consequently our pan is made to fit close at both sides, and there is no room for grain or straw to work through, as in other feeders that shake the grain pan from one side only, producing a



Gaar-Scott Self-Feeder, with Outer Section Raised Ready for the Pitchers, showing easy access to cylinder by removing front panel, the shaking grain pan and one concave.

sort of wobbling motion of the pan which necessitates plenty of room on both sides for the play of the pan.

Gaar-Scott Feeder Not in the Way

WHEN you come to get at the cylinder and concaves of your thresher, our feeder does not interfere in the least. It is the work of only a minute to lift out the grain pan by slipping out a bolt secured by set screws at each side of the feeder.

Power Transmission and Belt Tightener

THE self-feeder is driven directly from a pulley on the thresher cylinder shaft, so that it runs independently of all other parts of the separator and leaves the other pulleys to do their work unhampered. The feeder drive belt has a convenient belt tightener which is held to the belt by a ratchet device or may be hung up by its chain. This tightener is an absolute guarantee against slipping of belt or burning out new belts. All other working parts of the feeder are driven by sprocket chains which give a positive steady movement throughout.

The Best Self-Feeder for the Best Thresher

WE ARE often asked to attach our self-feeder to other makes of threshers. We have a good reason for refusing to do this. Good threshing depends first upon a good thresher, and second upon the right feeding. If we attached our self-feeder indiscriminately, or built them for other manufacturers, some of them would go on machines, the operation of which even good feeding could not help, and the manufacturer of the thresher would, of course, lay it onto the feeder. If attached to any other kind of machine that was doing good work, nine times out of ten the separator would get all the credit. As business charity begins at home, we prefer the exclusive use of the best self-feeder for the best thresher.

It Feeds Anything Threshable

EVERY year we are offered self-feeders by manufacturers who make a specialty of this class of manufacturing, much cheaper than we can build the

THE GAAR-SCOTT "TIGER LINE"

Gaar-Scott self-feeder. But they are cheaper feeders. We have tested many of them, and on every point—light running, regular and uniform feeding, the capacity of the thresher and the quality of its work—the Gaar-Scott leads. We do not care what kind of grain or seed you thresh, the result is the same. Ours is an especially good flax self-feeder. In sections where considerable flax is threshed, it is very generally regarded as the only successful flax self-feeder, because it is built to handle long, tough, damp straw without wrapping or choking. This same construction, with the addition of a few extra parts, makes it also a rice self-feeder without an equal. For full description of this rice self-feeder, see special rice thresher catalog.

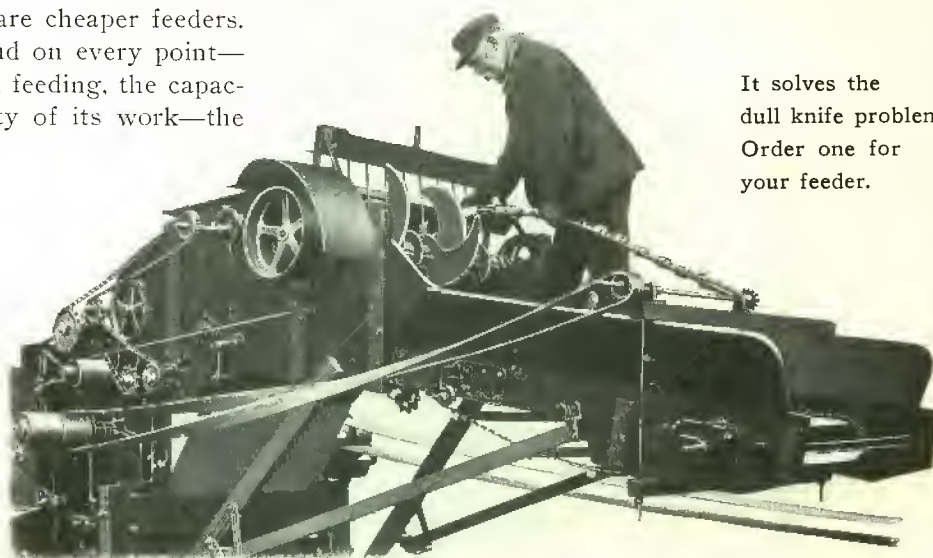
Self-Feeder Extension

WE BUILD a 14-foot Feeder Extension mounted on two high wrought iron wheels. This attaches to the feeder instantly, and a short sprocket



Feeder Extension as Attached to Feeder.

56



Illustrating Use of Gaar-Scott Rotary Emery Knife Grinder.

It solves the dull knife problem. Order one for your feeder.

chain connects them and drives the Extension. Please note that in the Gaar-Scott Feeder the Extension is also controlled by the feeder governor.

With this Extension, you can throw on the sheaves from any position on wagons at each side, and do it easily, keeping the feeder full from near the ground up to the cylinder.

If any one were to suggest to you a possible way of increasing the capacity of your thresher one-third, you would seek the means eagerly. You have it in this Feeder Extension, as it will take care of a third more grain and won't let the pitchers "lie down" on their jobs.

The capacity of our large threshers is limited only by the amount of grain you can get to them, and it pays to keep them running full.



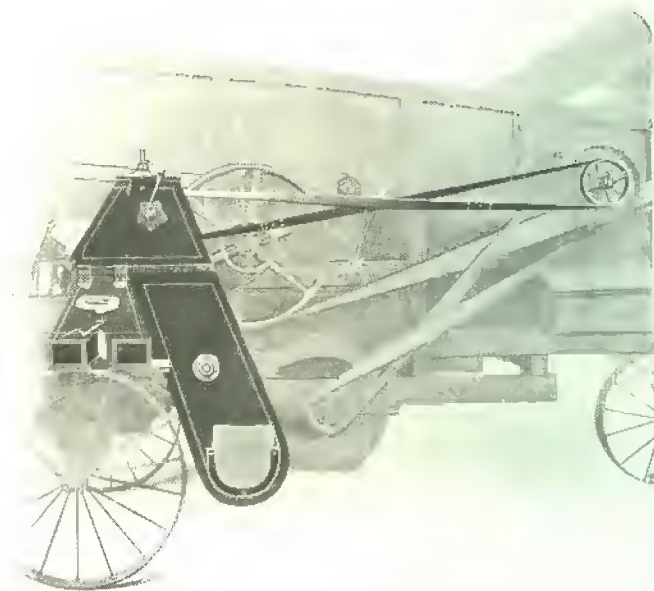
SEVENTY-FOUR-YEAR QUALITY

Gaar-Scott Bagger and Weighers

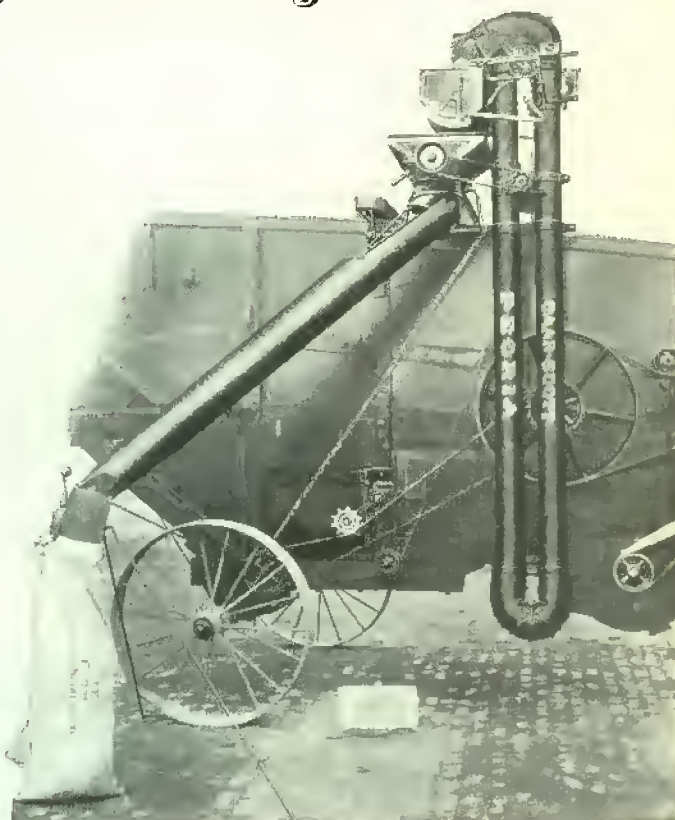
A SPROCKET chain with heavy sheet-iron cups forms the elevator of this Bagger which fills the sacks and tallies the number of sacks filled. On a test trial it sacked thirteen bushels of oats in a minute.

It can be taken off of one side of the separator and placed on the other side in five minutes. It is belted from beater shaft, by a pulley fixed on the shaft and held by a set screw. This pulley is to be changed from side to side when the Bagger is moved. The cut-off readily shifts the course of the grain or seed from one spout to the other.

This Bagger is a favorite with rice threshermen, and where principally oats is threshed.



Illustrating the Gaar-Scott Bagger. An especially good Rice Bagger, proved by twenty-five years' use.



Gaar-Scott Weigher, No. 1.

Description

THIS Weigher has a cross conveyor and bagging attachment. It combines lightness in weight with great strength and durability. It weighs with perfect accuracy, and will elevate easily all the grain that goes through the largest separator. The Weigher has a small number of parts, which makes its operation very simple, and it will not get out of order. As will be noticed by the cut, it sets close to the side of the separator; is attached in a perpendicular position, obviating the friction of dragging buckets and chain, and throwing very little strain on the separator. The pipes being far apart, admits the use of large sprocket wheels at both ends of the elevator, requir-

THE GAAR-SCOTT "TIGER LINE"

ing a small amount of power to drive the Weigher. The chain can always be at proper tension, as the chain tightener can be adjusted while the Weigher is in operation. The scale beam is very accurate, because it runs high above the pivot points and moves the Weigher forward toward the center as well as upward. All friction in the weighing mechanism is eliminated by the use of knife edges, the same as are used in very sensitive scales. The pipes are large, made from single sheets of steel with a malleable flange riveted at each end and bolted at top and bottom, and the Weigher takes the grain readily at the bottom and can not carry grain back. While the hopper of this Weigher is low, the Weigher is high enough to spout the grain into wagons. The grain is carried in the conveyor by means of an auger, and the conveyor is the same diameter across the entire machine which admits of the top of the elevator being low down, so that it can enter any barn into which a separator can be taken.

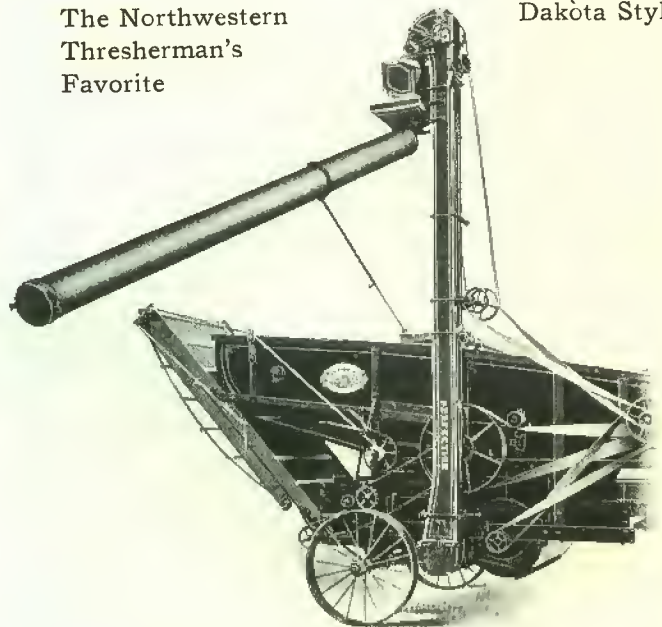
Perfection Weigher and Wagon Loader

THIS Weigher is especially adapted to the Minnesota, Dakota and Canada trade. It accomplishes the same purpose as a weigher with conveyor, except that the grain is delivered by spout instead of con-

veyor. It attaches firmly to separator, and loads easily for carrying. We attach these Weighers to hundreds of our Separators each year, and they give universal satisfaction.

The Northwestern
Thresherman's
Favorite

Dakota Style



Illustrating the Perfection Weigher and Wagon Loader.



Gaar-Scott "Tigers" in the Argentine Republic.

SEVENTY-FOUR-YEAR QUALITY

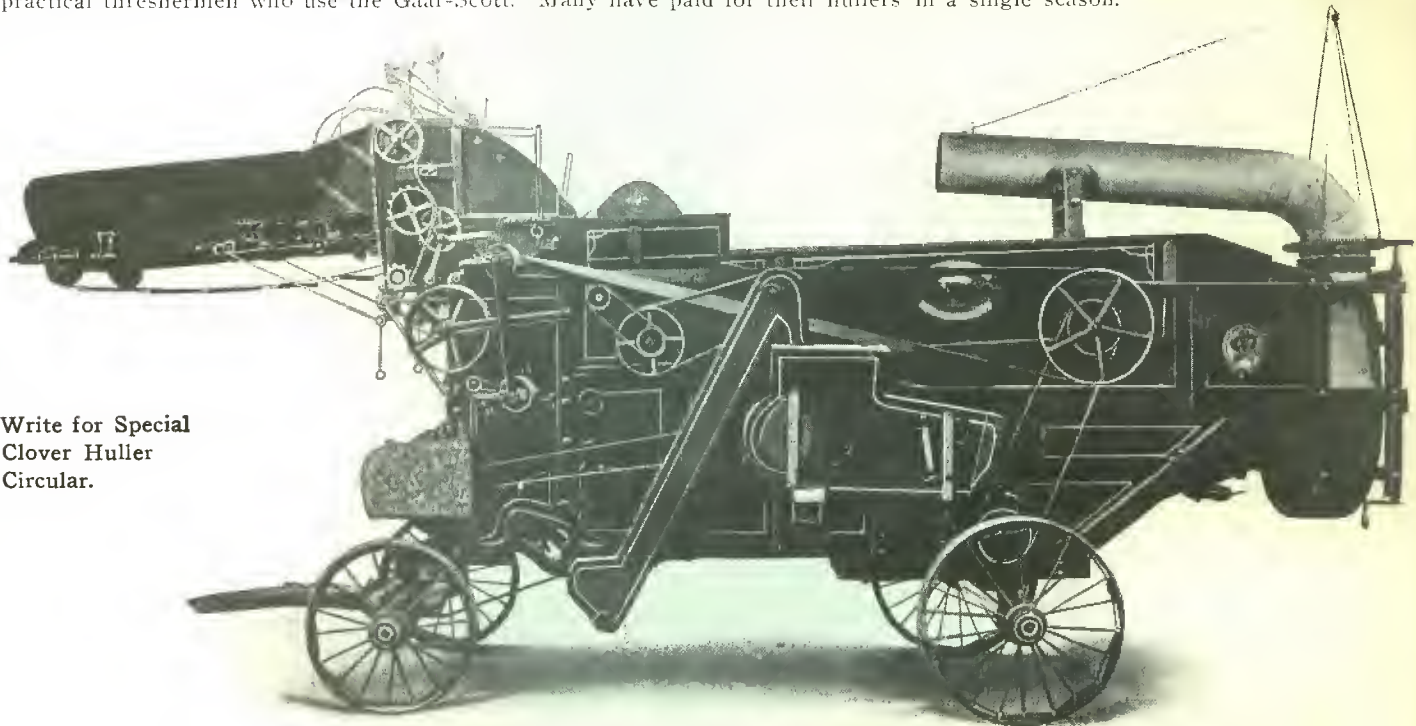
The Gaar-Scott Clover Huller



THE very limited space we can devote to our clover huller and attachments in this catalog, prevents anything more than a mere mention of them. The accompanying illustration shows their solid and symmetrical construction, and the way the self-feeder and wind-stacker are carefully built on or with the huller and not simply hung on. Notice the heavy arch castings in the sills where they are cut under for short turning, the strong metal wheels, the heavy brackets supporting the driving pulleys of the two cylinders in connection with the idler; also the way these two bearings are trussed together.

All the tailings in our improved huller go directly into the hulling cylinder instead of through the threshing cylinder. This gives the huller the largest capacity possible. The recleaner sets well back out of the dust and dirt, so that the seed when it comes from the recleaner is as clean as can be.

The meanest job about a clover huller is feeding, as every one knows who has ever had this disagreeable work to do. Our self-feeder cuts out this very objectionable feature and does the work much more perfectly and faster than any hand-feeders can do it. The picker arms swinging from stirrup connections, are operated by a four-way balanced crank. No matter how solid or matted the bunches may be, they are thoroughly picked apart and evenly distributed on the feeder carrier. This self-feeder and our wind-stacker are strong selling points in favor of our complete clover huller. Let us send you our special clover huller circular and letters from practical threshermen who use the Gaar-Scott. Many have paid for their hullers in a single season.

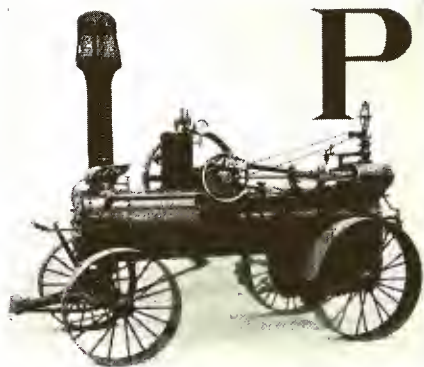


Write for Special
Clover Huller
Circular.

The Gaar-Scott Clover Huller with Self-Feeder and Wind Stacker.

Recleaner sets well back out of the dust. Rear end is high and wide, giving plenty of separating room and large cleaning capacity.

We build only one size 35-inch threshing cylinder, 35-inch hulling cylinder, rear separator parts 42½ inches wide.



P ortable Engines on Wheels

Other Types are shown in the
Gaar-Scott Special Saw Mill Catalog



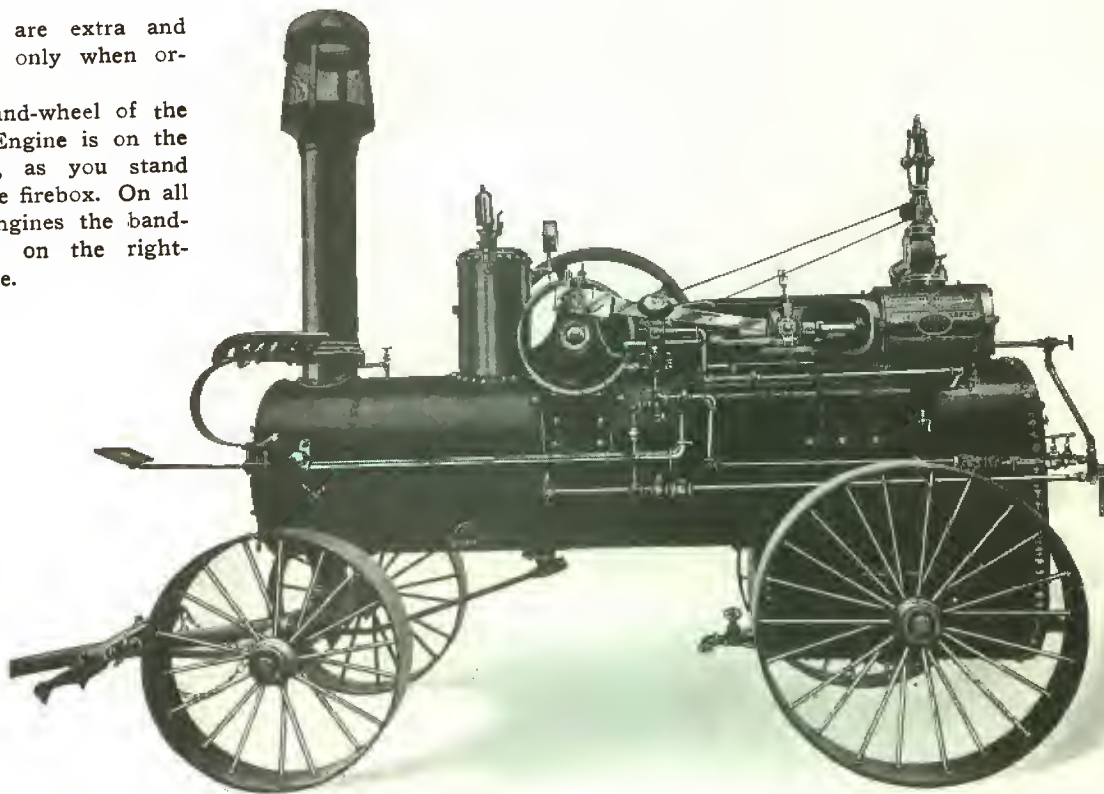
PORTABLE or semi-portable steam engines were built by us long before the advent of the steam traction engine, so that they have had many years to prove their economical operation, power and durability, and have proved these features to the complete satisfaction of thousands of users. We often hear of Gaar-Scott portable engines that have been in general use a third of a century, and are still running economically. For almost any kind of work that requires sufficient power, and in sections where wood, coal, straw or other fuel and refuse may be had at reasonable cost, there is no

portable or semi-portable power so economical, reliable, safe and simple in operation, with less likelihood of getting out of order, and that will give years upon years of service with less expense for repairs. The 6, 8 and 10 h. p. portable engines have the standard-pattern or locomotive slides cylinder, as shown in the initial letter illustration. The 13, 16, 18, 22, 35 and 50 h. p. engines have the Corliss-pattern cylinder shown in the illustrations of these larger engines.

The wheels are steel with extra wide face. The boilers in both styles of engines are mounted in the most substantial manner, and so as to admit of the engines being easily handled on the road.

Brakes are extra and furnished only when ordered.

The band-wheel of the 6-horse Engine is on the left side, as you stand facing the firebox. On all larger Engines the band-wheel is on the right-hand side.

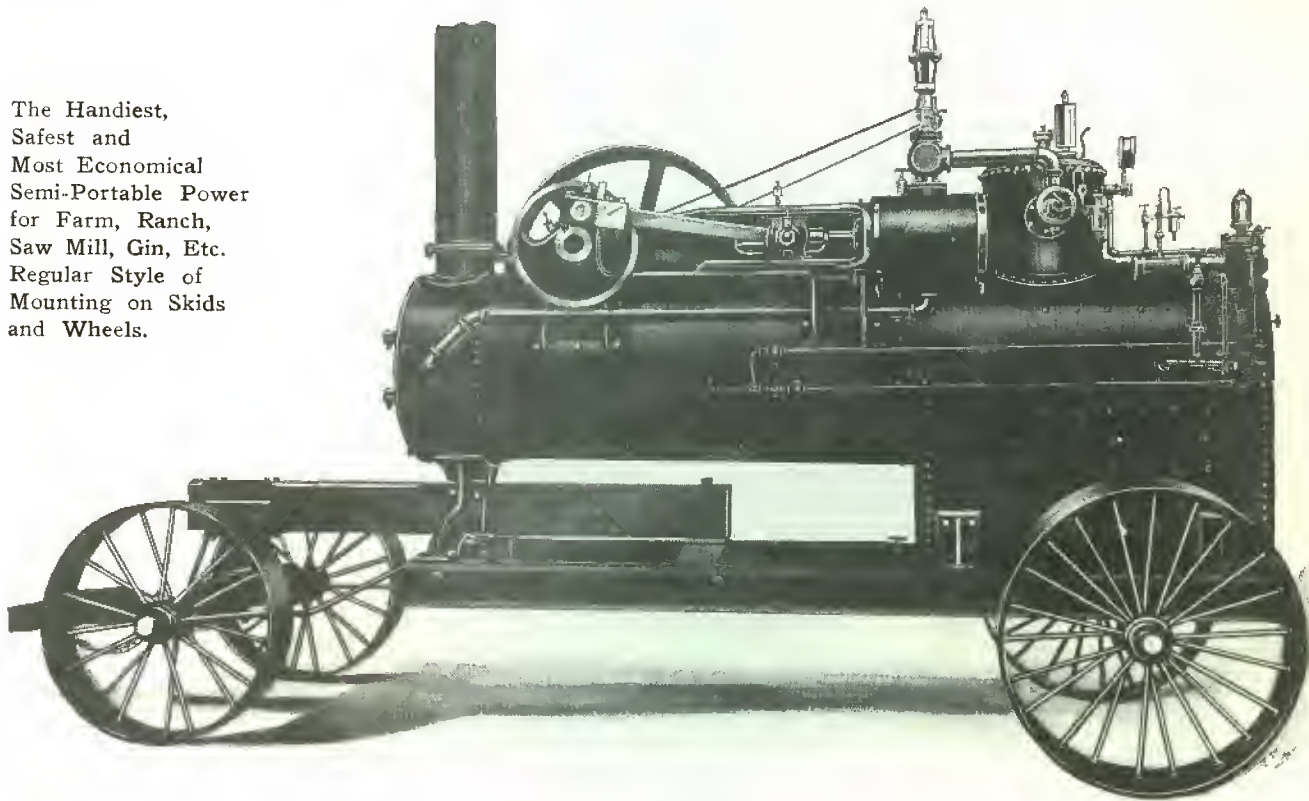


Typical Wheel-Mounted Portable Engine—13, 16, 18 and 22 h. p.

Gaar-Scott Portable Engines—Skid Mounted

THE engraving below shows the manner of mounting the larger sizes of our Plain Portable Engines on skids and wagon. Our 35 and 50 h. p. engines are mounted in this way only. With this mode of mounting the engine on skids and wagon, the wagon can be used to move the engine from place to place, and can also be easily removed and the engine set in place for use on the sills. The wheels and axles can then be made useful as a lumber or log wagon, or for other hauling.

The Handiest,
Safest and
Most Economical
Semi-Portable Power
for Farm, Ranch,
Saw Mill, Gin, Etc.
Regular Style of
Mounting on Skids
and Wheels.



Gaar-Scott 35 H. P. Portable Engine and Typical of the 50 H. P. with the addition of Engineer's Steps, Etc.

Gaar-Scott Detachable Engine—Undermounted

THIS is a very convenient general-purpose, semi-portable engine, built 50 h. p. only. It meets an established and growing demand for operations that call for an easily portable engine. The engine and bed or base, in such work, is carried on the two sills on which the boiler is mounted, with trucks, or for stationary work the engine may be quickly detached, together with its bed and mounted on a concrete or similar permanent sub-base, without disturbing the alignment of the crank shaft and the engine.

This is the only engine made that may be thus adapted to the special work to be done. For the rice planter or irrigation rancher who uses his engine stationary for pumping during the seeding or growing season and needs portable power at other times, this detachable engine meets a long-felt want not heretofore filled.

As this is an especially desirable engine for portable saw milling, we illustrate and describe it in our special saw mill catalog, mailed free on request.

Gaar-Scott Saw Mills



MORE than half-a-century's experience in saw mill manufacturing has given us an abundance of saw mill sense. We know what features are necessary for perfect operation, and we know the things that add only surplus wearing parts and weight, as well as the things that are obsolete in modern equipment. The careful and substantial outfitting of our mills for successful sawing is as evident in our smallest, or Plantation Mill, as in our larger mills of greater capacity.

These large mills are suitable for installing in permanent lumber plants for big sawing, and of sizes to be operated by 22 to 50 h. p. engines. Our smallest, or Plantation Mills, are extremely portable for small sets. Between these mills, in size and capacity, are our Pony Mills.

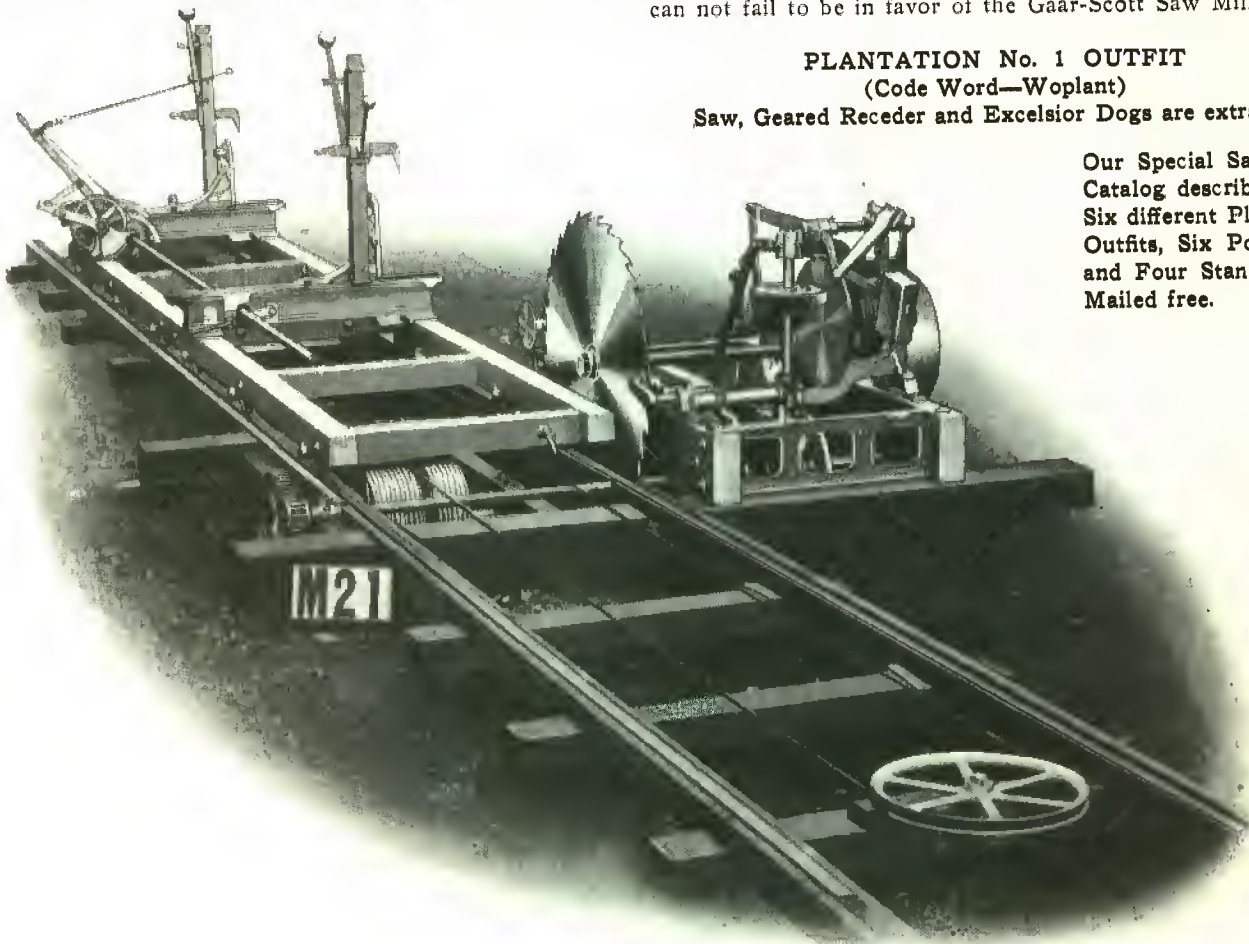
All of our saw mills have our improved set-works, our improved saw guide, and where solid cable carriage is ordered, our spiral drum with large sheaves and wire cable. In connection with the improved set-works we furnish a geared knee receder when ordered, both operated by a single lever. We also furnish as ordered, other modern attachments, including a very superior spring knee receder and power or friction receder and setter, lever knees for taper sawing, and our popular variable friction feed.

We want you to compare this splendid equipment with any other mill; also compare dimensions and specifications, all printed plainly in our special saw mill catalog, and your decision on points of solid construction and operating convenience can not fail to be in favor of the Gaar-Scott Saw Mill.

PLANTATION No. 1 OUTFIT (Code Word—Woplant)

Saw, Geared Receder and Excelsior Dogs are extras.

Our Special Saw Mill
Catalog describes
Six different Plantation
Outfits, Six Pony
and Four Standard.
Mailed free.



Gaar-Scott Plantation Saw Mill with Variable Friction Feed, Solid Carriage with Cable Drive, and Improved Set Works with Geared Knee Receding Attachment.

Gaar-Scott Steel and Wood Water Tanks

Steel Tank



GAAR-SCOTT Steel Water Tanks are made from heavy gauge sheet steel of best quality. The hopper on top makes a handy place for carrying fuel, and for convenience in shoveling coal, the front end is made scooped. The Tank has two steel baffle plates inside, which prevent the water from rushing from one end to the other in suddenly starting or stopping or hauling over rough ground.

Wooden Tank

THE tank body is made from strong staves cut from well seasoned stock, and joints tongued and grooved. Passing around the tank are strong wrought iron bands, with nuts on the upper ends so that the staves can readily be drawn tighter if they should shrink. The tank is flat on top.



Steel Water Tank on Wagon.



Wooden Water Tank on Wagon.

making a good place to carry extra pieces. There is an extension on the front end for carrying fuel. These Tanks are painted on the inside as they are put together.

Myer's Low Down Pump, with suction and discharge hose, is furnished with our Tanks, when ordered. These pumps have large ca-

capacity, strong suction and discharge, and are so well known that further description is unnecessary.

Tank Wagons

THESE are substantially made with coupling pole, which serves also for a draw-bar to attach to separator. This arrangement takes the strain off the tank body. The wheels are metal and have wide face. Either tank will be furnished with bolsters, and without trucks. These bolsters are standard width to set on any ordinary farm or lumber wagon, and spliced tongue, doubletrees and neckyoke are furnished with the trucks. The tank may be readily set off and the trucks or tank put to other uses.



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HEN we extend our index finger to the "Tiger Line" and the "Success Road" at the same time, we admit a feeling of business pride and self-interest, but how about the vast army of users of Gaar-Scott machinery in every grain growing section of the United States and Canada who are not prejudiced by any interest except their own success? Our Tiger Truths, issued from time to time, are the published experiences of thousands of these men. We have some special editions for special states, and a large general edition. If a copy is not received with this catalog, please write for it.

Most of our branch houses, especially those remote from the factory, are generally well enough stocked with machinery to fill rush orders, but you will appreciate that it is desirable for us to have ample time to give your orders our careful attention at the factory, if possible, and ship direct to you. Our blanks, terms, prices, and any other information will be furnished promptly, either from our home office or branch houses.

Our traffic department is well organized with complete files of latest tariffs, so that we are able to secure for our customers the very best freight rates and routing. Loading platforms adjoin our warehouses on two of the large railroad systems of the country, and spurs from these roads track our yards for the quick and economical handling of incoming raw material and outgoing finished product.

We have tried to tell you in this catalog all the reasons why the owners of Gaar-Scott rigs have the right-of-way on the road to success. If you are looking for the straight line pike, or have got off of it, remember our guide-post has pointed the success way for three-quarters of a century. It takes satisfied customers, and lots of them, to keep an immense factory like ours going and growing all that time. What stronger evidence could you ask that we have pointed the right way?

Just to pave the way, drop us a line at Richmond, Indiana, or to our nearest Branch listed on outside cover.

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